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# YOUR SPECTRUM

No. 20 November 95p *Byte High, No Limit*

TEST FLIGHT

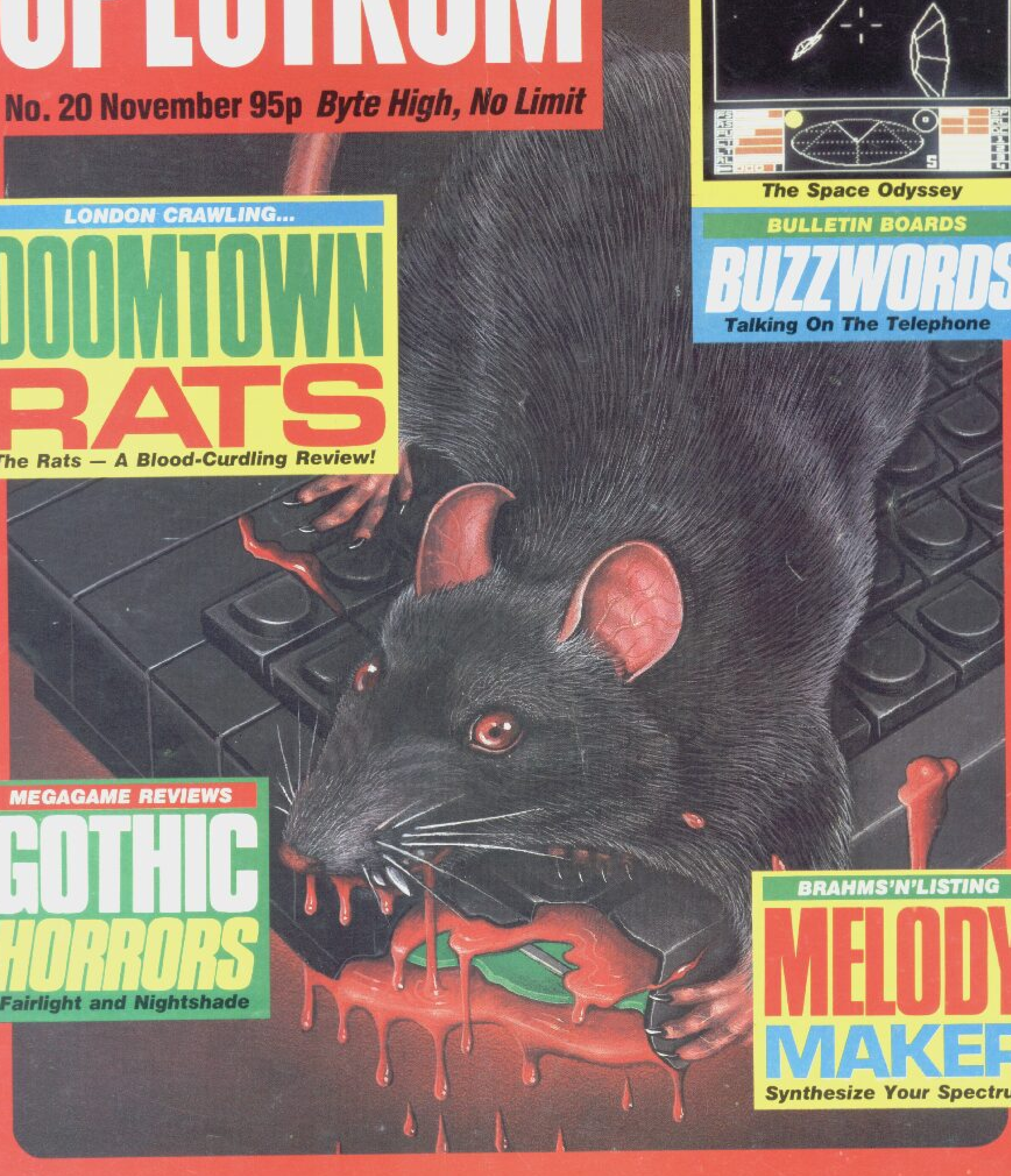
## ELITE

The Space Odyssey

BULLETIN BOARDS

## BUZZWORDS

Talking On The Telephone



LONDON CRAWLING...

## DOOMTOWN RATS

*The Rats — A Blood-Curdling Review!*

MEGAGAME REVIEWS

## GOTHIC *HORRORS*

Fairlight and Nightshade

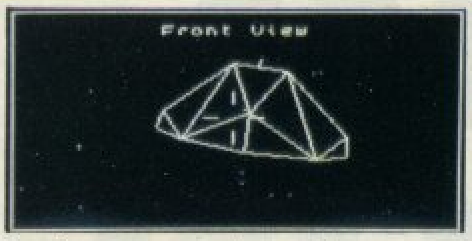
BRAHMS'N'LISTING

## MELODY MAKER

Synthesize Your Spectrum

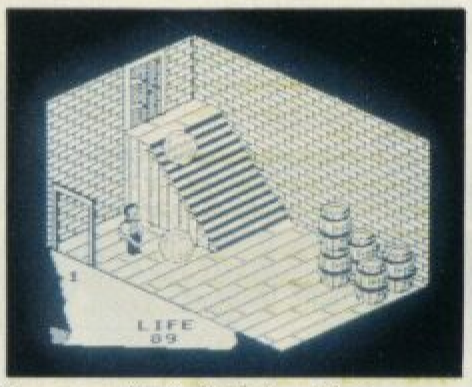
# INSIDE YS

## MEGAGAMES

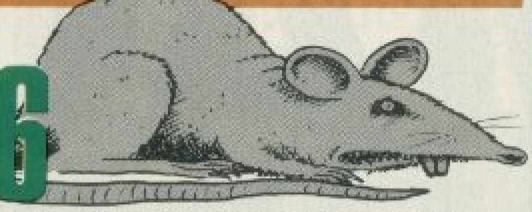

**28**

**Elitism** Book your seat on the shuttle to the stars. Join the *Elite* from Firebird.



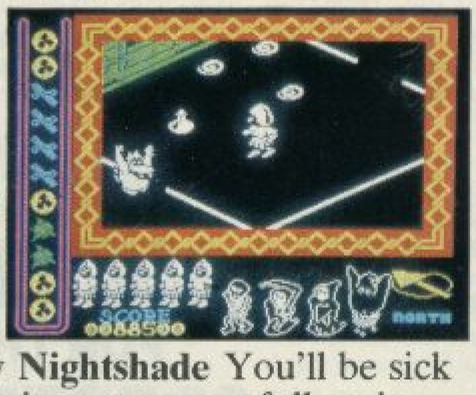

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**Gothic Horror** *Fairlight* — the game of the year? We've taken it to the edge!



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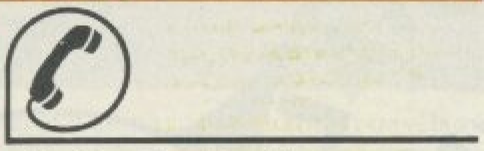
**Doomtown Rats** They came from the depths, clawing, gnawing, gnashing . . . *The Rats* is reviewed in cold blood.




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**Deadly Nightshade** You'll be sick if you miss out on our full review of the new Ultimate megagame, *Nightshade*.


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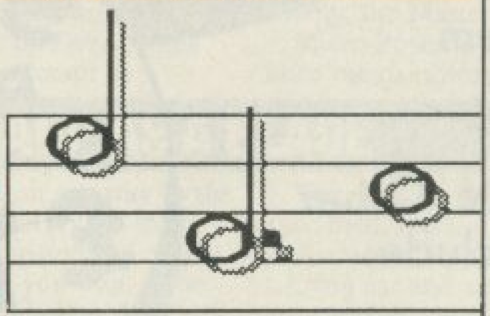
**Joystick Jury** Bone up on all the latest arcade raves, including *Bounty Bob, Macadam Bumper* and *Daley Thompson's Supertest!*


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ABC **55,126**

Cover Illustration by Bob Venables

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# FRONTLINES

**D'you want to settle an *Old Score*? Have you won a grand day at the races? Will *The Lord Of The Rings* be *Hobbit* forming? Who's the man behind the *Mask*? A Dumbo game? *Rambo*, cloth-ears! Then again . . . it's all in Frontlines!**

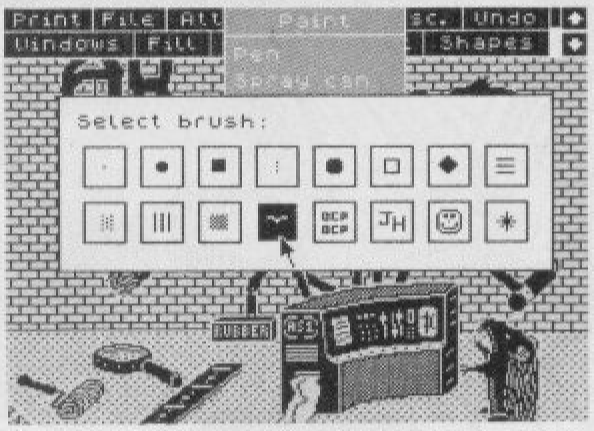
## I SAW A MOUSE, WHERE?

Artists are renowned for their fierce rivalry but now it's spread to software houses producing artist packages. On the one hand, meet OCP and its new graphics design program, *Art Studio* about which they claim 'even Softek admit it's better'. Better than Softek's recently released program, *The Artist*, that is. Softek retorts, 'they haven't seen *Artist II* yet . . .'. Watch that paint fly!

And there's still more gossip. It seems there may be a mouse in both houses. At the PCW Show OCP was using an AMX mouse in conjunction with a Kempston mouse interface. Unfortunately, Kempston is being very cagey about whether the interface exists at all, let alone when it'll appear. Fear not, we'll trap a release date out of them.

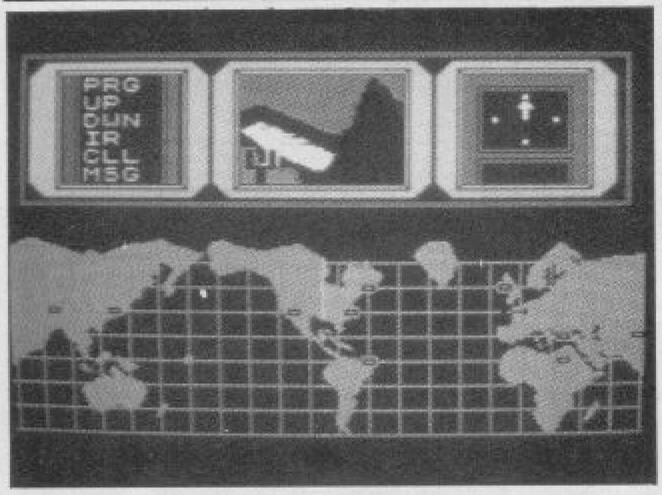
Softek's *Artist II* may also be bundled with a rodent of some kind — but for all we know at the moment, it could be eight foot tall with big floppy ears. They are saying, however, that they intend to undercut considerably OCP's mouse and package price of £70-80. Looks like it's hard cheese for one of 'em!

If you want to go mouseing, Softek hole out on 01-240 1422 and you'll trap OCP on (0753) 88866. The best laid plans of mice and men, eh?. . .




**Yikes, it's a mouse! No art package is complete without one.**

## HACK ATTACK




Activision is not going to tell you what its new game's about even *after* the release.

*Hacker* has no instructions, no clues, no nothing. When the game's loaded, you're faced with the prompt, 'Logon Please'. After that, you're on your own. We can reveal that the game involves travelling by undergound travelators, collecting information from your spies, and eventually saving the world. (*Just for a change. Ed*). One interesting touch is that your spies will natter away to you in their native tongues.

If you want more details, you don't have to hack the system, just ring (0628) 75171.




**Philips prefers doing it standing up and now you *can* too. The new upright automatic data recorder has plenty of flash lights and touch sensitive buttons — can't be bad at £38. If you want to go up in the world, give Philips a ring on 01-499 0414.**

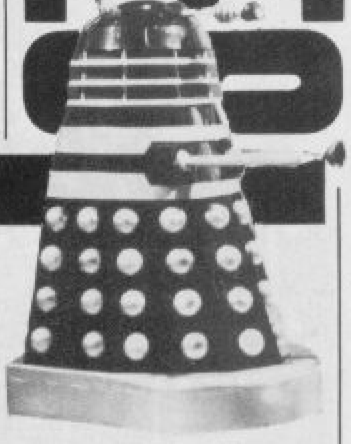
## WHAT? WHERE? WHEN?

Who'd have thought it? Cliff Richard clone, *Dr. Who*, immortalised on silicon? Yeti is — in a new Speccy game from Micro Power. But exterminate all thoughts of getting it in your hot little hands el prompto — 'cos Micro Power says it's a long way off

The biggest horror awaiting you in the game, called *Dr. Who — Mines of Terror*, must be its attempt to emulate the *View To A Kill* scrolling window. I'm afraid to say, Who's old mates, the Daleks, don't appear to get a beep in!

The game's all about the good doctor's efforts to destroy the *Tiru* (Time Instant Replay Unit) and nab the plans for the machine from the clutches of arch-enemy, the Master.

Micro Power's Time Lord seems powerless to reveal a release date for the game, but it should be some time before Christmas and at a price of £14.95. Phone (0532) 4588 00 for more info.



**We're *not* in the Who game? Exterminate...**

## SHARP AS A BLADE

We're on our way to the 21st century, so start thinking android quick! Unless you want to be left behind on this earth while everybody else leaves for bigger and better planets, you'd better shape up your brain and get into action as a *Blade Runner*!

If you've seen the fast-moving, futuristic film, then you'll know that Blade Runners are inter-planetary bounty-hunting police. It's their duty to capture and kill super-human Replicants, those lithe and lethal, living androids

This mission isn't execution, but 'retirement'. You'll have a flying car and an information screen to help you, but with the Replicants bent on revenge, your task is tough. You could make enough money to retire if you outwit them, but the fight will be tight. If you think you're sharp enough, then apply to the headquarters at CRL. They'll let you know how to get in on the action but you may have to wait. Tel. 01-533 2918 and prepare for the future . . .



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## FROM THE H/P



Wow, wotta hectic month on the phones I've had. Not much lollin' about on the lilo for me! (*No rest for the wicked, eh? Ed*). It must've been the Summer hols combined with the Winter weather that kept y'all in

Steve Bird from Glastonbury called in about a Basic program he's writing that involves moving UDGs around the screen. Now, Steve's problem cropped up when the UDGs took it upon themselves to bump into each other. As you may know, the Screen$ routine in the Speccy can't 'see' UDGs, so finding out where they are on the screen at any one time is very difficult — and trying to use the Point instruction is flippin' impossible. Well Steve, here's the simplest method of getting round the problem I know. You'll have to use a bit of deviousness to trick the Speccy into thinking that it isn't looking at a UDG. As soon as you've looked at the area of the screen you want to check with the Screen$ function, you'll need to re-set the character set pointer.

Right, let's hit you with the POKEs you're going to need. Before performing your Screen$ check; POKE 23606, PEEK 23675-8: POKE 23607, PEEK 23676-2. Then, use the Screen$ function to look at the coordinates of the area where your graphics keep crashing into each other. Next, you'll need to reset the pointer with POKE 23606,0: POKE 23607,60. The character that the Screen$ function returns should be the upper case letter that corresponds with the UDG's own label. So, for a UDG 'a', though it might look like a bucket at the time the ScreenS routine will return the string 'A'. Top hole, what?

Getting back to Steve's collision detection problem, you'll find this method of checking the screen around the object you've marked out for collision, has a double bonus. You'll not only be able to find out if the object has banged into something but you'll also be able to suss out just what the obstacle is. Phew, I think I'll have a little sit down. (*You are sitting down. Ed.*) OK, OK. An' I thought they'd abolished slavery!

Simon Hepworth called from Sunbury in Middlesex about that ever-popular subject of cassette headers. He wants to investigate where programs are installed when loaded. And what's more, he wants to do it from within one of his programs that transfers from tape to Microdrive.

Fasten your seat belts for a quick run through! The header is made from seventeen bytes of information loaded into the workspace area above RAMtop. As the workspace moves around quite unpredictably, you can never be too sure just where the header will load in. If all you're interested in, is reading the header, then you load it in anywhere, anyway. Just use the headerless file loader I described in issues 15 and 17. Load the header in at about 40000.

The info that's contained in the header comes in five sections. Firstly, there's a solitary byte that describes the file following it. A zero indicates a Basic program, as 1 means that there's a numeric array, 2 prepares for a character array and 3 means that the next file is a code block. The following ten bytes contain the name of the file in ASCII form. Next up are two bytes containing the length of the code block, or for Basic, the length of the Basic program. Another two follow, for the start line in Basic, or for code start in code block files. The last two bytes contain the length of the Basic program area.

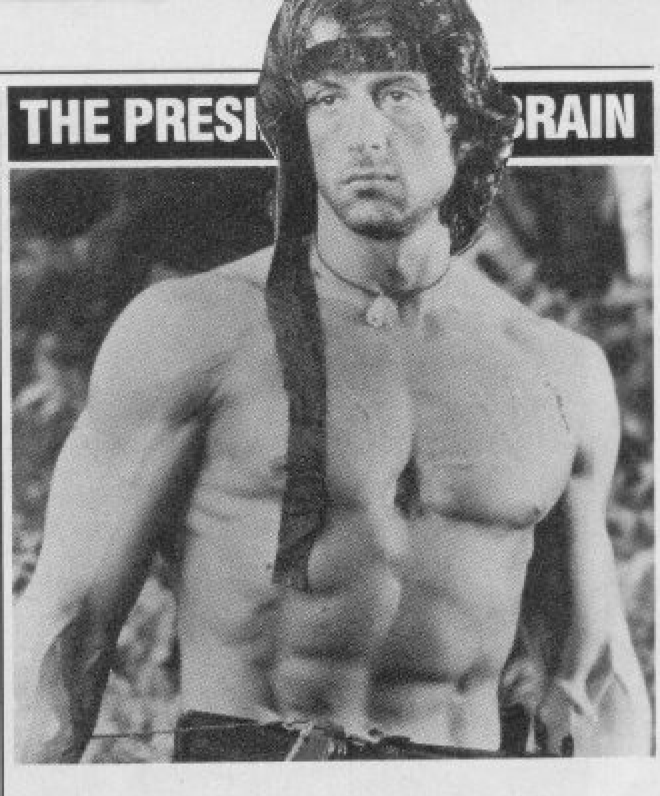
I'll try and pack a lot more of your calls in next month — or the Ed'll think I'm only gettin' two a month and cut me off in my .... (*Snip! Ed*).

Catch you on the phones!

**Troubleshootin' Pete**

*Pete's lines are open Wednesdays and Fridays between 10am-1pm and 2-5pm on 01-636 2416.*

## THE PRESI… BRAIN



Nancy get yer mum . . .cos Ronnie's fave film, *Rambo*, is about to be given the Ocean treatment and be transformed into the all-singing, all-dancing computer-game-of-the-film!

*Rambo*, the film, is a jolly little story about an ex-Vietnam killing-machine traipsing around some south-east Asian jungle freeing good ol' Yankie POWs.

As for the game, Ocean's ideas centre around the *'Raiders of the Lost Ark'* type adventures that *Rocky-Rambo* gets embroiled in. Slime pits seem to feature strongly in the game — could this be *Pitfall* take three?

So, if you wanna re-live the film's mindless violence on your li'l ol' computer screen, sock it to Ocean on 061-832 6633.

## NO SCORE DRAW

It's the eighth of September, it's London's Southbank, it's hot, and it's crowded. It's the last of the GLC's Thamesday festivals before it's abolished next year. The start of someone's latest adventure?

Global Software has hired the Festival Pier to launch its latest Hobbit-style adventures. Shame that the programs aren't ready. Bemused, *YS*'s mobile unit has to sit down, eat the food, drink the champers and watch the best fireworks in Europe. Why here? Why now?

The answer is *Old Scores.* Bored with dwarfs and dragons, *Old Scores* is set in the *real* world. You start off at a pub in Charing Cross — yourself and the inspector in the dog house for fluffing your last case. A copy of *The Standard* reveals a fab Mozart gig on the South Bank but someone has stolen the score. Hi-res graphics, genuine locations, some vaguely familiar faces and a few old scores to settle — so save up £6.95 before the end of September and it's all yours!

## BEAT THIS!

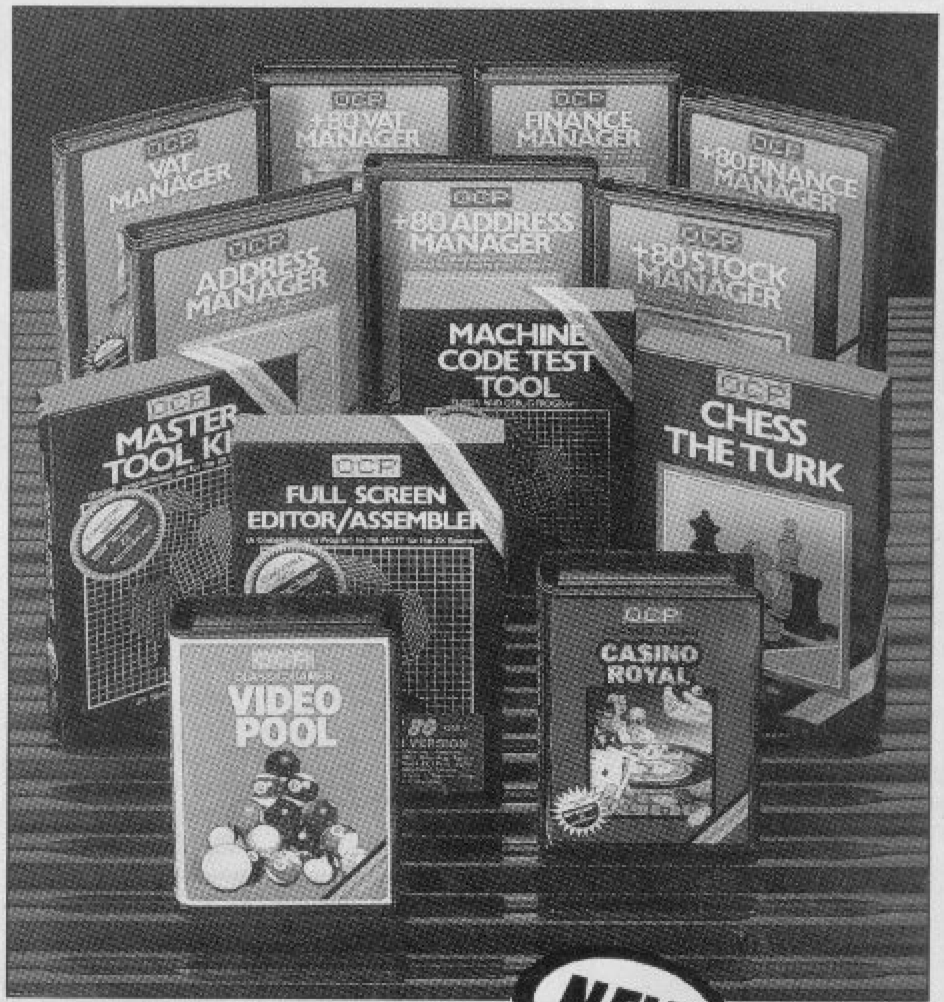



**The neighbours are gonna love you!**

You'll soon be beating the latest offering from Cheetah! Why? . . . Is it a record? . . . is it a contest? . . . No, it's a drum machine, a SpecDrum, geddit? I know what you're thinking, it must be really, really expensive or just plain tinny. Well, think again. This device is only £29.95 and it makes proper drum sounds. It may not be a recording studio job, but for music made the Speccy way, it deserves to be a hit! Just plug it into your Speccy

The SpecDrum won't be hitting the streets, but the shelves in branches of Boots. It's an exclusive, so you'll have to beat the High Street trail for your drumming, chum. You can get in on the beat now, so if you're the computing world's answer to Cozy Powell, give Cheetah a roll call on (0222) 777 337.

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See your local dealer or order direct by indicating the items required, by ticking boxes, complete the coupon and return the advertisement. Alternatively, phone the OCP Hotline on (0753) 888866, stating your Access or Barclaycard Number.

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## WORD MANAGER

**NEW**

This word processor has been designed for "user friendliness". The following features should particularly appeal to users of the "Tasword II" program, with which it is text compatible. The software includes an address filing supplement with screen editing. Extra features include:

- ★ **Simple "single keystroke" insertion facility.**
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- ★ **The program works with cassette tape, Sinclair Microdrive, Opus and other disk systems.**
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**The Word Manager – £12.95** ☐
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## UTILITIES

### MASTER TOOL KIT

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## GAMES

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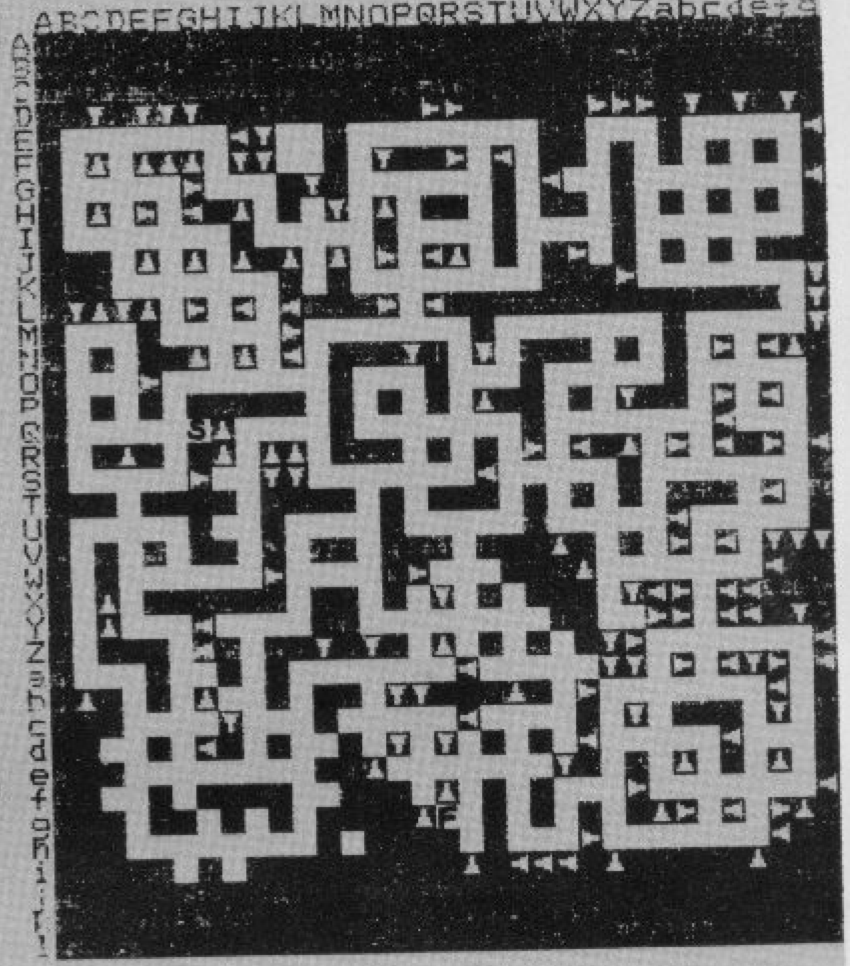
Signature ____________________

TEAR OUT

**Watadrive, Opus and other media versions of our programs will be available in the near future. Contact us for further information on 0753 888866.**

# hacking away

**Welcome to the column where hacking's the name of the game. If you're into POKEing more fun into your games, then stick around and get hacking, *Chris Wood* style.**




Hi there hackers! As you know, Andy Pennell is far too busy microdrivin' to continue the column on hacking, so I've slipped into his slot instead. I may not be as famous as Andy (yet!), but I, and the rest of the *YS* readers, are just as interested in your POKEs, so keep them rolling in! Let me know of any problems you're having with games too. If I can't help, then I'll throw the challenge open to the rest of you!

OK, so let's get POKEing. It's too late to be the first to complete *Gyron*, but if you want to be in the running for the play off then here are a few POKEs to help you practice! There's no cheating though, because although you might finish the game, the code you see at the end depends on whether you took the correct route or not, and whether the program has been tampered with! You've only got until the 6th of November to get there, so send your entry to Firebird pronto!

Start with CLEAR 65535: LOAD""CODE. For infinite viability (energy) to you and me, POKE 299552,201 and 29089,0. You can then ram the wall without fear. Type this in for immunity against Tower flak and Sphere contact.

```
10 FOR n=24781 TO 24786:READ a: POKE n,a: NEXT n
20 DATA 49,255,255,195,176,96
```

To blast yourself through walls POKE 61498,195. RANDOMIZE USR 24580 will start the game. Try not to wander off the top or bottom of the playing area, and use the map.

Now for a hacking 'bug-fix'! Apparently the POKEs for infinite *Jetpacs* didn't work so try POKE 25018,0.

**Paul Hargreaves** from Brentford has come up with a mean-screen-scam for *Monty Mole*! His little program allows you to start at any screen you like, and he reckons number 18 is a good one to try.

```
  10 BORDER 0: PAPER 0: INK 0: C
LEAR 32767
  20 LOAD ""SCREEN$ : LOAD ""COD
E
  30 INPUT "LEVEL (1-39)";LEVEL
  40 LET LEVEL=LEVEL-1: FOR I=30
000 TO 30011
  50 READ A: POKE I,A: NEXT I
  60 POKE 54951,205: POKE 54952,
48: POKE 54953,117
  70 RANDOMIZE USR 54370
  80 DATA 50,0,91,62,LEVEL,50,17
2,228,58,0,91,201
```

Do you want to kill the aliens in *Cosmic Cruiser* really dead! Try POKE 25373,0, that should settle their hash.

**K Gillan** of Leeds wasn't taking any chances when he sent in a mammoth list of POKEs — he's determined to see his name in print. They're easy to get in with MERGE"". Here are a few to start with: *Digger Dan*: Infinite lives, POKE 25559,0. Infinite energy, POKE 26363,0. RANDOMIZE USR 24576 to start.

POKE 28522,0 will give you infinite lives on *Spectral Panic*. You can have infinite lives in *Sam Spade* with POKE 25215,0 and infinite oxygen with POKE 26381,0. Finally *Push Off* (*'Bout time too — Ed.*) can be improved with infinite lives, POKE 26862,167, and infinite alarm time, POKE 27136,0.

Not to be outdone, **Barry Start** of Merseyside has sent in one large program instead of lots of small ones! This one's for *Wriggler*.

```
  10 BORDER 0: LET CS=0
  20 FOR I=23296 TO 23348: READ
A: POKE I,A: LET CS=CS+A: NEXT I
  30 IF CS<>5994 THEN  PRINT "DA
TA ERROR": STOP
  40 PRINT "START WRIGGLER TAPE
AND PRESS A KEY": PAUSE 0
  50 FOR I=1 TO 7000: NEXT I
  60 RANDOMIZE USR 23296
  70 DATA 49,255,255,221,33,0,64
,17,0,27,205,31,91,221,33,200,92
  80 DATA 17,40,163,205,31,91,33
,253,195,54,0,195,92,195,175,55
  90 DATA 20,8,21,243,62,15,211,
254,219,254,31,230,20,246,1,79
 100 DATA 185,195,107,5
```

Play your fully rewound *Wriggler* tape, and voilá, infinite lives will be yours! Alternatively, if you have the Mirage Microdriver you can try 50173,0 in POKE mode. Get wrigglin'!

**Maxwell Clark** of Tyne & Wear has a clever little trick for *Manic Miner*. POKE 36123,0 to make some of the nasties go faster than normal and some slower. If you're good at the game, it'll make it more manic than ever ... and Maxwell is only ten so I daren't think what he'll be doing when he grows up!

Two quickies from **Martin Barrio** of Clywyd. Try for infinite lives on Thor's *Jack and the Beanstalk* with POKE 56110,0 and for the same on *Road Racer*, the magic numbers are 27150,0.

# FRONTLINES

## CAPITAL FORCE

Those of you who *still* haven't rushed out and bought *The Capital Radio Book of Computers and Simple Programming* are going to have no excuse after this month. Why not?, I hear you cry from behind the sofa. Well, Interface Publications is kindly giving away copies of the aforementioned book to the first 25 readers who can come up with the answers to the following:

1. *Capital Radio is:*
   a. An independent radio station.
   b. A new portable radio designed for the London commuter.
   c. A flavour of ice cream.
3. *Capital Radio serves;*
   a. Birmingham
   b. London
   c. New York
3. *The Capital Radio book was co-written by which of these people;*
   a. Ronald Reagan
   b. George Bernard Shaw
   c. Troubleshootin' Pete

Now, just write down your answers on a postcard or on the back of a sealed envelope, and send it to Capital Book Compo, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE. Do this and you could be one of the lucky ones to get hold of a copy free, gratis and for nothing!! If you don't get one, then fear not, you can still get copies at £3.95 each from Interface Publications, 9-11 Kensington High Street, London W8.


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QUICKSHOT II AUTO RAPID-FIRE JOYSTICK
SPECTRUM INTERFACE

# yond the Spectrum.




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```
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    MODE WHICH INDENTS STATEMENTS AND
    PREVENTS WORDS BEING SPLIT
345 DATA 10,38,42,22,65,2,43,54,67,76,8
    9,78
350 LPRINT "
360 LLIST
370 LPRINT "
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# EXPERT SYSTEMS ON YOUR MICRO!



Now you can explore the exciting world of Artificial Intelligence in action, with the latest book from top-selling computer author, Tim Hartnell.

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The book discusses, in some detail, the most successful Expert Systems developed to date (including PROSPECTOR, MYCIN and DENDARL) and shows how the field has developed over the past decade. Ready-to-run Expert Systems programs in the book include AUTO MECHANIC and MEDICI (to give yourself a quick 'stress check'). The major Expert System in the book delights in the name of FUZZY RITA. This program uses fuzzy logic within the framework of an Expert System shell to produce a genuinely useful expert on just about any subject you choose, from chicken sexing through to medical diagnosis and weather forecasting. You'll also be given the chance to explore the languages which dominate the Artificial Intelligence and Expert Systems worlds. The book contains BASIC emulators of PROLOG and LISP so you can get them up and running on your computer, without having to actually buy the languages.

*Exploring Expert Systems on your Microcomputer*, by Tim Hartnell (ISBN 0 907563 74 0), is £7.95, and is available from most book and computer stores, or you can get it direct by mail, post free, from the publishers:

**Interface Publications Ltd., Dept YS,**
**9-11 Kensington High Street,**
**London W8 5NP**

(Trade only: WHSD Leicester)

**Interface**

## LONDON CALLING!

How d'ya fancy a freebi tour through London town? Whether you're a townie or a country bumpkin, Friday Soft's offering you the trip of a lunchtime!

And you won't even have to cough up so much as a Luncheon Voucher to revel in the sights of the big smoke 'cos those kind people at Friday Soft are offering *YS* readers 20 copies of their topical adventure, *The London Game* . . . absolutely free!

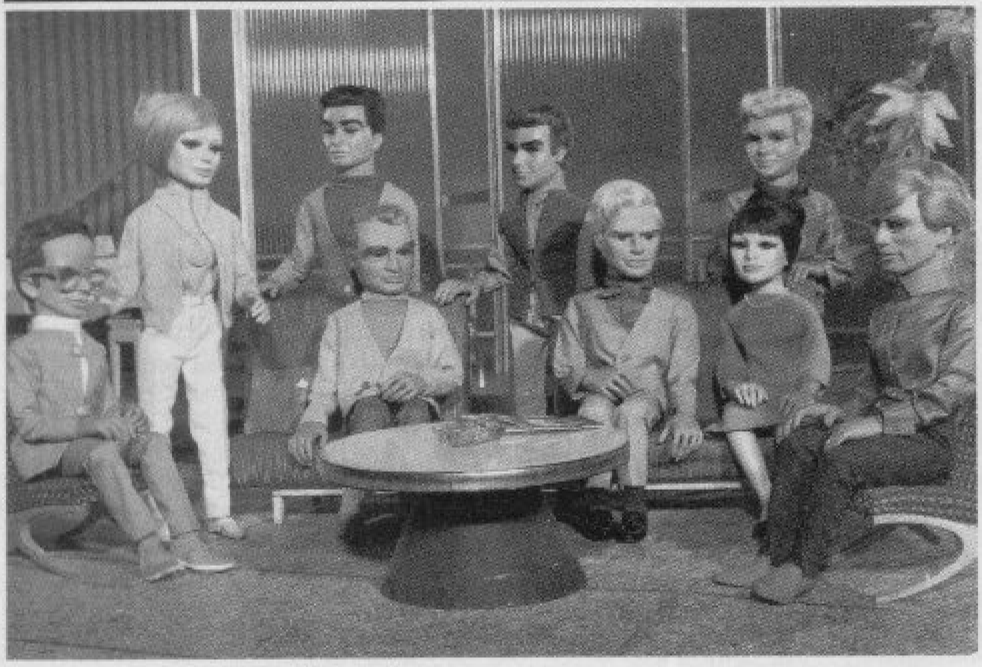
OK, so Friday Soft may have hearts paved with gold . . . but Ed's a bit more stingy about dishing out freebies. He knows only too well that if anything's going for free, there'll be more than 20 of you clambering for it! That's why he's knocked up these three paltry questions about some of the more famous residents of our capital city . . .




1. *Where does the Queen live?*
   a. Buck House
   b. Castle Rathbone
   c. Buckingham Palace
2. *What is Margaret Thatcher's job?*
   a. Editor of *YS*
   b. Prime Minister
   c. Roofing contractor
3. *Where did Prince Charles marry Lady Di?*
   a. St. Paul's Cathedral
   b. Pinewood Studios
   c. Hackney Registry Office

Just write your answers on the back of an envelope or postcard and send it to The London Game Compo, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE, and you could be getting a copy soon!

## FIREBIRDS ARE GO



**Phew, it's all go for the YS team!**

*Mr Tracey*: "Well boys, it looks like it's time to crank up Thunderbird 1 and 2. Our creators have flogged the rights to a game based on us to Firebird."
*Scott & Virgil*: Fire-bird?. I hope . . .
*Mr Tracey*: "Now, don't get hysterical *Virgil*, I'm sure Firebird wouldn't dream of doing us as a silver range game."
*Mr Tracey*: "Well boys, first of all you'll need to get out the Three-In-One and oil down T2's launch pad. It'll never get off the moss on that track."
*Virgil*: "Okay Mr Tracey"
*Scott*: "What's happening then, *Mr Tracey?"*
*Mr Tracey*: "It seems, boys, that a group of Egyptologists have got themselves trapped in an ancient maze-tomb."
*Scott*: "You mean we've got to take out each stone, block by block to save them?"
*Mr Tracey*: "Exactly."
*Scott & Tracey*: "Okay"
*Mr Tracey*: "Right boys, if you have any prob-lems then don't bother to ring me — I'll prob-ably be tied up with Penelope all weekend. Ring 01-379 6755 if you want more informa-tion, and remember, anything can happen in the next 48K."

## GRAND PRIZE

Did you drive yourself round the bend trying to answer the questions in our crazy *Kempston Chicane Compo* back in issue 17? Well, the race is over now, so put away your Guinness Book of Records as we announce the lucky winners!

**Paul Ratcliffe** of Lowestoft and **John Hymns** of Ilford were the lucky two that made it to the European Grand Prix at Brand's Hatch.

The next five hopefuls to make the chequered flag with their winning question formulas will be receiving a Kempston Formula II joystick and Interface each. Are you a racing-ace? Read on . . **Michael Woolley**, of Kirkbymoorside, **Keith Jackson** of Cannock, **Richard Carver** of Aston, **Luke Hutchinson** of Burton and **L D Clough** of Cheadle. It's not quite the glory of the Grand Prix, but a small prize is still an honour. Well done!

## PAPER DATA



### Z80 Reference Guide by Alan Tully
Melbourne House/£9.95

**Learning and then understanding machine language is not so very different from learning any other language — English,for instance. The only difference being that English is far more tricky — but you learnt that OK, so why all the fuss about learning another one?**

**When you set out to learn a language the first two things you'll need are a tutorial and a dictionary. This book is quite simply a Z80 dictionary. Inside you'll find a detailed description of each instruction just as a dictionary defines words. There are tabulated lists of them all with their timings and the effect they have on each flag. A whole page and sometimes more is dedicated to each so they can be covered in full, including a table of their object codes in both Dec and Hex.**

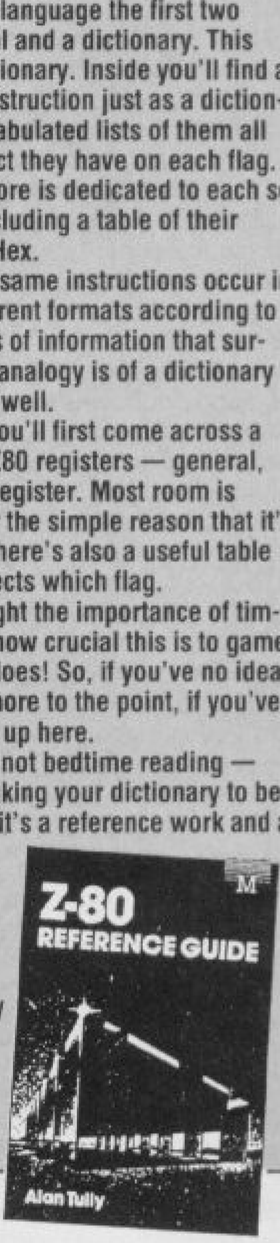
**More than this, though, the same instructions occur in other parts of the book in different formats according to the different but relevant types of information that surround them. Perhaps a closer analogy is of a dictionary combined with a thesaurus as well.**

**Moving through the book, you'll first come across a chapter on the three types of Z80 registers — general, specific purpose and the flag register. Most room is devoted to the flag register for the simple reason that it's the most important of them. There's also a useful table showing which instruction affects which flag.**

**Now, very few books highlight the importance of timing in machine language and how crucial this is to games programming. Well, this one does! So, if you've no idea what a T or an M cycle is, or more to the point, if you've forgotten, then you can look it up here.**

**But be warned, this book is not bedtime reading — unless you're in the habit of taking your dictionary to bed with you. As its title tells you, it's a reference work and as such it won't even teach you machine language — for that you will need a tutorial. What it will provide is a solid back-up to your language learning and it'll prove a handy memory jogger for even the most hardened machine code programmer.**

**Tony Samuels**



# FRONTLINES

## LETTERS PAY

Saga Systems, has added a low-cost, high-quality printer to its range of add-ons.

The LTR-1 is a new style of letter-quality printer that uses an impact band rather than the daisywheel. A what, you cry! Well, it's a rubber strip, five characters wide, that moves round hitting the paper with a hammer action.

The LTR-1 has both RS232 and Centronics interfaces, so you shouldn't have any problems linking it up to your Spectrum. Its only drawback is its speed — 12 characters per second. Now that's fairly normal for letter quality and anyway a good night's sleep'll do you good while you're waiting. Still, at only £119.95 it's not just the rich kids who can buy a cheapo thermal printer for listings and save the LTR-1 for letters.

The clever print-head is also bi-directional and logic seeking. It uses a permanent Elite-style head and can accept A4 size paper. If you can't get it together to write to 'em (no printer?), give Saga a ring on (04862) 22977.



## FULL HOUSE

Melbourne House has certainly got its hands full. Apart from the new Spanish-set, seaside-and-suntan oil adventure, *Terrormolinos,* there are five more megagames in the pipeline for a Christmas release.

First, ask your mummy about *Fighting Warrior,* an arcade adventure set in Egyptian times. It's the old, old story . . . our hero has fallen for a girl about to be buried alive with her master. Tomb much!

Next, is a sailing simulation, *The Whitbread Round The World Yacht Race.* it's like this . . . you've got a yacht and you have to sail round the world, but then you'd probably sussed that already. But where does the Whitbread come in? *(Answers in a pint pot please! Ed).*

Da boys are back. Mugsy is in town and he's out for revenge. Dat's why dis sequalled hoodlum hokum is called *Mugsy's Revenge.* Can you refuse de offer?

Now for some galling news. *Asterix The Gaul* has a new 3D software slanging session with soldiers, pirates, and even killer boats. *(What no gallstones? Ed).*

And finally, the bad news for all of you trying to kick *The Hobbit,* you'll now have to face up to *Lord of The Rings.* Yes, the long-promised follow-up is almost with us and with it comes the sleepless nights . . .

If you want someone to ring, try Melbourne House on 01-940 6064.




**Lord of the Rings under the eyes.**

## MORE PLUS

Mikro-Gen has two more games using the Mikro-Plus interface in the offing.

The latest Wally game, *Three 'Weeks' In Paradise,* uses advanced graphic techniques and all the available features of the Mikro-Plus. The other game, *The Battle Of The Planets,* is based on the tacky cartoon of the same name. Both titles join *Shadow Of The Unicorn* as the first batch of what seems to be a whole series of Mikro-Plus software.

The Mikro-Plus is certainly a meaty bit of gear. Lurking inside its ROM is a whole chunk of troubleshootin' routines to test not only your Spectrum but the tape and tape recorder too. Thus you'll be able to suss out what's wrong with your Speccy before sending back the tape. Also, some of the standard graphic sets are in ROM and should be rearing their squiggly heads in future Mikro-Plus games.

For more details, give Mikro-Gen a bell on (0344) 427317.

## hard facts

**Hung up with hardware hassles? Then hand them over to *Stephen Adams* at Hard Facts, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE. He's the man with the answers!**

Are you lucky enough to own so much Speccy hardware that you daren't try to connect it all at once! **Sgt. A H Bennett** BFPO 41 has this problem! He wants to buy a Brother HR5 printer to use with his Spectrum+, Interface 1 and his Microdrive. This should be fine as the HR5 can connect to the Interface 1 via the RS232 socket, but you mentioned getting a VTX5000 modem too. Well, I think maybe you're being a little bit hopeful with that one!

He also wants to know if extra software was necessary to enable the HR5 to COPY. The best thing is to base COPY software on Andy Pennell's *Dumps of Distinction* in *YS* issue 4, OK?

Still thinking about printers, this time **R Stephenson** has a GP 50S printer and would like to make use of the whole width of the paper. Unfortunately, although this printer was designed to work to a full 40 columns, it's been restricted to 32 for use with the Spectrum. There's not a lot you can do, as it's controlled by the ROM inside the printer (unless you disassemble and 'blow' a new EPROM). So maybe you should stick to the small... I mean narrow print!

**V. Acton** has raised a question about the XK System 1 he's attached to his Speccy. As you suggest, the 32K Cheetah RAM pack will work as an extra page on the XK system, and a diagram can be supplied by TV Services, the people who provide the system. The problem is that, like normal Spectrum memory, it must have continuous memory from the bottom to work, and your particular RAM pack has faulty lower memory locations which will no doubt cause difficulties. You could patch this up by using Spectrum Basic for a data store, but XK Basic won't recognise it as a working page as it will not have more than 2K of good memory from 32767 up. Treat yourself to a new RAM pack, it'll be worth it!

**Ian D Grimsley** asks the same question about a 16K ZX81 RAM pack. Well, yes you can use it as an extra page with the XK system, but I don't know of any boards available for the job! I could supply you with a PCB that might help, but you'd have to add the decoder on a piece of vero board. It's up to you!

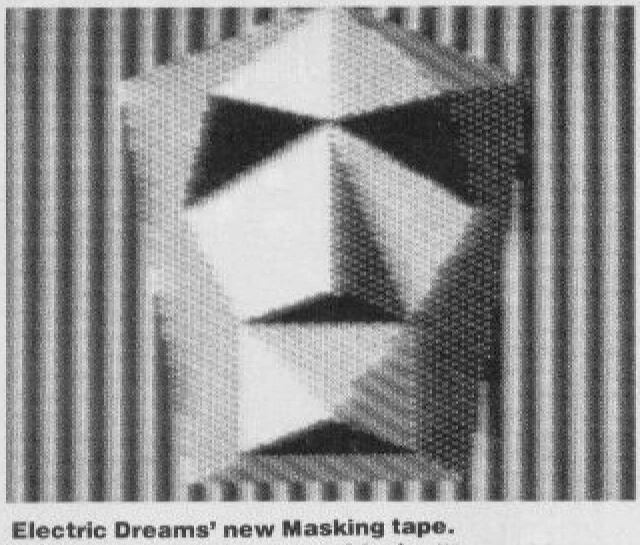
It seems that even in idyllic Thailand, you can't escape the problems that occur with Microdrives. However, **J F Osborne** took his case to the Department of Trade, and things worked! A replacement was provided *and* he was offered spares and service! So, be brave, follow his example and take action, your case is as valid as any!

Maybe **G Ross** should've used this tactic. He's changed his Microdrive *twice*, and is still having problems with both the tape and the Microdrive. From what I can gather, the problem may be due to the positioning of your equipment. You say your telly sits above your Spectrum. Well, as TVs tend to give out magnetic waves which can affect unshielded leads, tapes, Microdrive cartridges and even ICs, you can either shield the whole lot by wrapping them in foil and then earthing the foil, or simply move them as far away from the TV as possible.

Finally, let's go over to a budding inventor. **James Hanks** has built a reset switch for his Spectrum and now wants to try something more adventurous like an amplifier with volume control and loud speaker. I suggest you buy a Maplins catalogue and look up a device called an LM380 in the Semiconductor section. This usually comes with an example amplifier circuit, which would seem to be what you need! You'll find this can be plugged straight into the EAR socket, so away you go an' get building!

Here's hoping that you've all learned something and that some of you will soon be smoothing over your hardware troubles! Don't forget, if your Speccy equipment is letting you down, let me know at Hard Facts, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE, and I'll do my best to help.

# ELECTRIC SCREAMS



Electric Dreams' new Masking tape.

Activision has launched a new company headed by ex-Quicksilva MD, Rod Cousens.

Electric Dreams as the company's tagged, has kicked off with two new games for the Speccy. In *Riddler's Den*, you're a man-elephant on a quest to steal the goldentusk from a golden god called Gregogo. It looks rather like a cross between *Sabre Wulf*, *Paws* and all other games of that ilk.

But, fret not, 'cos Electric Dreams' second release, *I, Of The Mask*, saves the day. It's written by *Ant Attack* author, Sandy White and boasts stunning 3D graphics. Seeing is certainly believing!

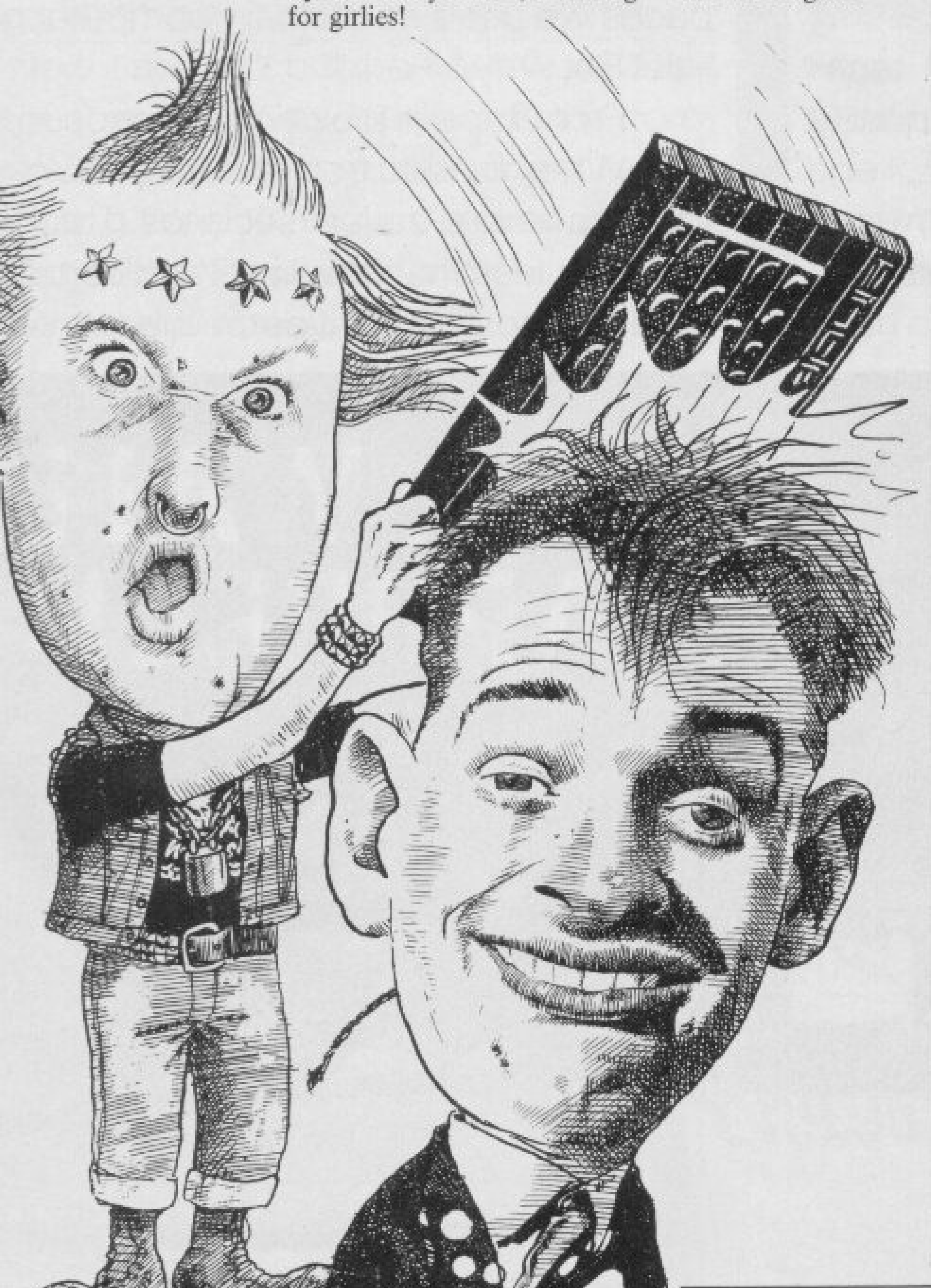
The plot revolves around a super-computer, dismantled by world rulers because of its yearning for world power. You, as an aspiring megalomaniac, must collect the bits of robot and assemble it for your own no-good.

Both games should be available at the end of September. *I, Of The Mask* will cost £9.95 and *Riddler's Den* £7.95.

Future plans for Speccy software from Electric Dreams include *Winter Sports*, using 3D Bio-vision. Yummy!

For more details, ring Electric Dreams on (0703) 225 282.

**Rick:** Cqwikey, I'm in the new *Young Ones* game by Orpheus. It's berilliant, crazee and zany — just like me!
**Vyvan:** Shut yer face, scumbag — this isn't a game for girlies!



NICK DAVIES

# microdrivin'

## Do you still have the 'L' plates on your Microdrive? Are you having problems running it in?... Whatever your microdrivin' difficulities, *Andy Pennell*'s here to help you pass your test!

Welcome to another spot of microdrivin'.

Way back in *YS*, when describing the IFI version of the perennial *Dumps of Distinction*, I mentioned a difficulty I'd found when trying to do the graphics dump on my Epson RX80 — the printer seemed to 'crash' during printing. Well, it wasn't long before a trusty *YS* reader came to my rescue. He went to a lot of trouble to explain that the problem was caused by the IFI sending spikes down the serial line, causing the Epson serial port to simply lock up. Unfortunately, as I wasn't using the IFI for printing at that time, I filed the letter under 'later' and promptly lost it! Now I have a problem with my parallel interface, and could do with that helpful piece of advice about putting a capacitor between two lines. So, if it was you, or you can supply the answer to help me out, then please drop me a line!

Back to other people's problems. **David Cartwright** is having sticky situations using his Cambridge Computing Intelligent Joystick with his Interface 1. In case you don't already know, the Cambridge was one of the first programmable types, and I discovered the incompatibility problem when I reviewed it for *YS* issue 1! Cambridge have since revised the design, so I suggest you contact them about the possibility of an upgrade.

This seems like a good point to discuss hardware compatibility with the Interface 1. There are three areas, RAMs, ports and software. The Interface 1 has its own 8K ROM, and this can be overridden by ROMs in external boxes, such as printer interfaces. It also uses certain I/O ports, defined in the original version of the Spectrum manual, which hardware add-on manufacturers should not really use. If they do, it means the device will not work with the interface connected.

The final problem is with software. If a Read operation is done on an Interface 1 I/O port, the Z80 can literally Halt, and you can't do a thing with it! The usual way programmers overcome this is with a bit of sloppy programming — reading port 0 for the keyboard. No new software does this now, but a lot of the older stuff tends to. That's why *Jet Set Willy* crashes when you do a Pause with an Interface 1 connected. To demonstrate, do any Microdrive command, then do PRINT IN 0. The machine will instantly lock, and as a 'bonus', with certain Spectrums, you can get funny patterns on the screen by holding down different keys! Unlike the other two categories of problems, this one has a solution — if you have an offending program, you should completely disconnect the power before loading from cassette. This works because the Interface 1 will not crash as long as it never gets initialised after a power-on. Any error, or Microdrive access *will* initialise it however, and it will crash with an IN 0. A Reset won't rectify this, only a power down will un-initialise it.

Now for a confession. Remember in my *New Rom Antics* article in *YS* 18, I asked you to type in a program that lets you know which version of the Interface 1 ROM you've got? And then I asked you to let me know if you found a new one? Well, I was flooded with your letters — which is not surprising really. Yep, you guessed, one of us boobed and this time it was me! To put you out of your misery, here's the program as it should have appeared:

```
10 SAVE *"m";1;"rom"CODE 236,1
20 LOAD *"m";1;"rom"CODE 16384
30 LET a=PEEK 16384: LET z=0
40 IF a=25 THEN LET z=1
50 IF a=113 THEN LET z=2
60 IF a=115 THEN LET z=3
70 IF z THEN PRINT "ROM version ";z
80 IF z=0 THEN PRINT "Hey Wow - another ROM!"
90 ERASE "m";1;"rom"
```

Now, if anyone really has a new ROM, please let me know. What more can I say? Oops?

I'm sure that you must have plenty more Microdrive breakdown stories to report! Write to me, at Microdrivin', *Your Spectrum*, 14 Rathbone Place, London W1P 1DE and I'll smooth over your microdrivin' problems for you.




Since the dawn of the computer age the prices of home computers have been steadily falling.

But, remarkably, the price of a genuine, full-blooded disk drive has remained almost constant.

Constantly expensive.

You'll be lucky to pick up a decent one for less than £200 in the shops.

Now, however, you can have one delivered to your doorstep for only £119.95 (including VAT and postage and packing).

The new Triton Quick Disk from Radofin.

Its specifications are every bit the equal of a £200 disk drive, as a glance at our card above will confirm.

Quick Disk uses the very latest technology to store up to 100K on high quality Hitachi Maxell double-sided 2.8" disks.

Its disk operating system (DOS) uses standard commands so it is truly easy to use, as any computer novice will be glad to hear.

While the price will be compatible with most wallets, there is a Triton Quick Disk compatible with most computers – Commodore 64, Spectrum (16K, 48K and Spectrum plus), Aquarius, Dragon 64 and all MSX Systems.

And, naturally, included is an interface box plus all connecting cables and instructions.

In short, what we deliver is a complete, genuine disk drive. Not a tape or wafer in sight. All for only £119.95.

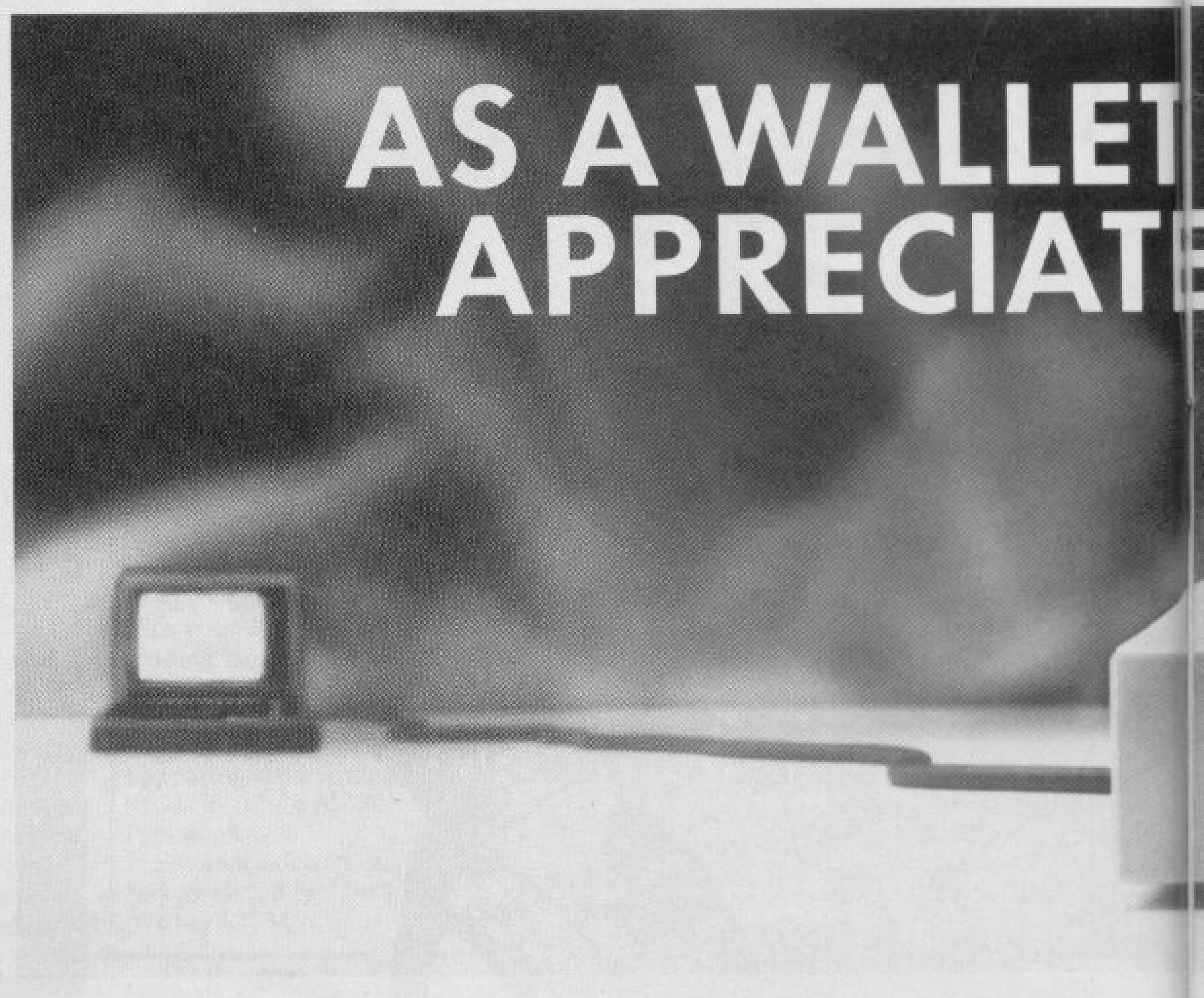
And when it comes to speed of loading, the Triton Quick Disk more than lives up to its name.

FROM 0 TO READY IN 7 SECONDS.

To put the Triton Quick Drive through its paces we used an ordinary computer game – Jet Set Willy.

From tape it took 170 seconds to load.

When loaded from the Triton Quick Disk it took a mere seven seconds. That is 163 seconds less than the tape and certainly as quick as most disk drives on the market.






Proof indeed that the Triton has all the capabilities of its more expensive rivals.

AS TEST DRIVEN BY THE EXPERTS.

New it may be, but the Triton Quick Disk is already receiving rave reviews in the computer press. For example, in a recent Home Computing Weekly article it picked up their much coveted "Flipped" award.

As their journalist said ".... I am very impressed by the Quick Disk. Not only is it very quick, and both smaller and neater than other drives, but it's easier to use as well...the Quick Drive performed faultlessly.

It's easy to use and at around £120 is probably the best buy for the first time user."

High praise indeed for any disk drive.

For one costing £80 less than any comparable piece of equipment it's exceptional.

HOW TO BUY YOUR TRITON QUICK DISK.

As yet you won't find the Triton Disk Drive in any shop. You can only lay your hands on one by filling in the coupon below.

Send it, along with a cheque or P/O for £119.95 to, Radofin Electronics (UK) Ltd., Hyde House, The Hyde, London NW9 6LG. (Postage free in the UK. Add additional postage for outside the UK.)

In the unlikely event of you being in any way dissatisfied, simply return the disk drive and we'll happily return your money.




TRITON
QUICK DISK.

Please send me a Triton Quick Disk for £119.95.

My computer is a__________

Please include______ 2.8" Diskettes at £2.99 each.

I enclose a cheque/postal order for

Total__________

Make cheques payable to:– Radofin Electronics (UK) Ltd., and post to us at Hyde House, The Hyde, London NW9 6LG. Tel: 01-205 0044.

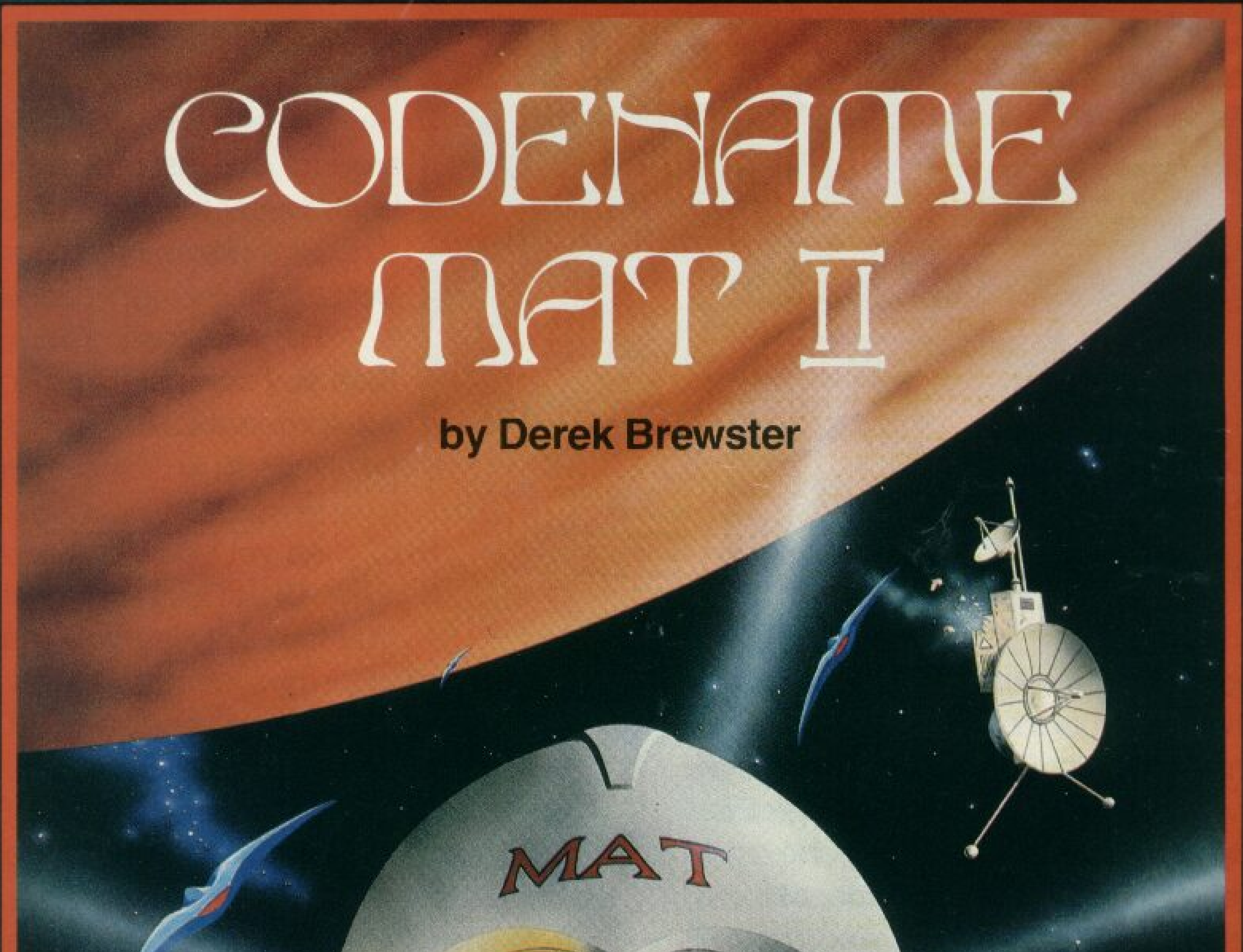
Name__________

Address__________

Tel No.__________ YS11

Please allow 28 days for delivery.

DOMARK



# FORUM

***If you've got something to say for yourself, then speak out! The star letter writer is in for a bundle of free software! Mail us a missive to Forum, Your Spectrum, 14 Rathbone Place, London W1P 1DE.***

## THE SAGA CONTINUES

Good news. I've got both the Saga 1 keyboard and a copy of *YS MegaBasic (Whoopee! Ed).* The keyboard is good, very good and with it the Speccy's a very effective word processor. Trouble is *MegaBasic* just didn't work. So, following your advice in *YS* 18, I contacted Saga for their free add-on that remedies the problem. I am shaken and delighted to report that by return of post the bit arrived and it worked first time. *(Whoooopeeee! Ed).* This is rare and very impressive. Thank you Saga and *YS.*

**Barrie Fairest**
**St Mary's, Isles of Scilly**

*Oh, it was nothing really — nice of you to mention it. Bask, bask. Not that we can take all the credit* (Oh, yes we ruddy well can! Ed). *OK, we're taking all the credit but if anyone wants to thank Saga or acquire their own free and gratis add-on, give 'em a ring on (04862) 22777. Troubleshootin' Pete.*

## KEYBOARD KLUTZ

If you've got a 'real' Speccy keyboard, here are a couple of tips. If you want the dull thud of an IBM rather than the cheap klack as you hit each key, try the draught excluder method. This involves carefully prising off each key and laying strips of rubber draught excluder under each line of keys so that they hit it just at the end of its travels. You'll find this method works well with the Dk'tronics, Fuller, FDS, Transform and the new LMT.

Another trick to make the keys feel more solid is to invert each individual key and fill them with plasticene or hot candle wax!

**Andrew Tisdall**
**Swords, Co. Dublin**

*And if you come over here, boys and girls, I've got one that we prepared earlier. What d'you mean, it's dripping candle wax all over the floor? How was I to know you were going to switch it on and use it? You know how hot they get! Hahem, on to the next item, kiddies... Ed.*

## DOUBLE TROUBLE

Hellooo. I'm writing on two matters of intergalactic importance. First, referring to ish 18, I have not, nor wish to have any connection with this Rump Numbrain person who is just an unoriginal wally. *(Phew, I'm glad we got that one straight. People were starting to talk. Ed)*

Secondly, I'm appealing to the squillions of people who read your purely incredible (kereeep!) mag. Does anyone have a Brother HR-5 printer and a Kempston 'E' Centronics interface? How do I get hi-res copy to work properly on it? Oh, come on, there must be *someone*? Anyway, until someone writes in, I'll keep headbanging my brick wall. S'long!

**Thomas 'The Original Erauqs' Smith**
**Lewisham**

*No, tell me it's not true.* (It's not true. T.P.) *Tell me there can't be two of them.* (There can't be two of them. T.P.) *I couldn't stand it if they both kept writing in repeating each other.* (...repeating each other. T.P.) *Aaargh! Ed.*

## NOT KNOWN AT THIS ADDRESS

Finally, you've driven me to dig out my copy of *Tasword Two* and pen this letter of complaint. Well, not a real complaint but a slap in the face for T.P. Take that. *(Ouch, that hurt! T.P.)* In *YS* 18, he came up with a method of using the screen by addressing it directly. Could he have made it any more long-winded or more difficult? *(Probably. Ed)* Now, here comes my program. Just type in this code using an assembler or hex loader — aaaargh! *(Well, he hit me first! T.P.)*

| | | |
|---|---|---|
| LD B,N | 06 N | load y co-ord into B |
| LD C,N | 0E N | load x co-ord into C |
| CALL 22AAH | CD AA 22 | call ROM routine |
| LD (NN), HL | 22 NN | save HL |
| LD (NN), A | 32 NN | save A |
| RET | C9 | return |

**All numbers are in hex.**

Now to use the program, POKE the two co-ordinates and run the code then PEEK the address and bit number. The address is contained in the location where the HL registers were saved. So, why couldn't T.P. do that? *(Where shall I start? Ed)*

Please note that I haven't done any crawling. I've also not asked for a Trainspotter Award though one would be nice to fill the space left on the wall where my last poster fell down. *(I'll pop a life-size piccy of Tony 'Slim' Samuels in the post to you — that should cover most of your bedroom walls and some of the ceiling as well! Ed)*

**Richard Relf**
**Epsom, Surrey.**

*Bet you think you're really clever don't you? But your solution hasn't got any pretty diagrams, has it? Na nardy na. Troubleshootin' Pete.*

## FROM BAD TO VERSE

In computing circles (so I've heard it said)
There's a growing concern for a fellow called Ed.
He writes weird little comments on letters he's read
And we think that he isn't quite right in the head!

To add to the problem he's joined by a freak
With the terrible title of Troubleshootin' Pete
(Poetic licence, that bit) *(Huh, off licence, you mean! T.P.)*
We've tried to decide which one is the worse —
But they're neither as bad as this horrible verse!

**Miss J R Wood**
**Altrincham, Cheshire**

*Well, J R, what can I say?*
*Your verse quite takes my breath away,*
*T.P.'s a freak, I must agree,*
*But what's this rot you say about me?*
*Writing here does take some guts*
*'Cos reading your letters just drives me nuts! Ed.*

## SHAW THING

Cast your minds back to Hacking Away, *YS* 18 and you'll remember J Eagleson's cries for help in escaping from machine code programs. Well, there's a simpler solution to the problem than using EI followed by RST 8. And what is this magical instruction? Why, 'tis JP 11B7h. *(Tip o'me tongue! Ed).* It jumps to the Speccy ROM routine that performs a NEW command.

This command gets around the problems involved in a 'crash set' ERR_SP by resetting this system variable. Also, there's no need for an EI, as this command is automatically executed at the end of the routine. Plus, the RST 8 is now redundant as NEW eventually drops back into Basic anyway.

If all this sounds too good to be true, let me admit now that there is one disadvantage. You'll find that the system variables RAMTOP, P_RAMT, RASP, PIP and UDG are preserved by the routine but you can skirt round this with a bit of judicious POKEing (or LDing).

The only other minor annoyance is that any screen display is erased and you can't get round this with any amount of POKEs. But if all you're after is a spot of hacking, then this shouldn't have you tearing your hair out.

Now this really was an obvious piece of coding, so come on Ed, give Pennell a POKE up the user prot.

**David Shaw**
**Walsall**
**Founder member of the 'I think Gollum deserved everything he got' society.**

*I've consulted all the major medical dictionaries but as yet no luck on locating Andy's prot. If this is another sordid example of the Shaw family sending each other coded messages in their fiendish bid to take over this letters paaagh... Ed. Now he knows where his prot is! Well, we Shaws have got to stick together. T.P. Grrr...pass the superglue... Ed.*

## SPACE INVADER

Now look here Mr so-called Editor, I am a v. annoyed Speccy owner from Caversham, somewhere on the third moon of Jupiter and I have several problems. *(You're telling me! So-called Ed).* OK, insanity is one of them.

**1** Why do I pay a six horned paper thing that rode all the way to your planet and back to fetch me *YS* only to find that they do not accept Mega noodles as currency in your mangey newsagents?

**2** When I got *YS*18 in my scaly paw I typed in the *JSWII* POKEs only to find that Eddie, my computer, NEWed. Is it me, is it Eddie or is the management prepared to accept responsibility?

**3** There's no Star Letter in the August ish. Now come on, the drink can't affect you boys and girls at Castle Rathbone that much, can it?

**4** If you don't print this I'll

# GREAT GRAPHICS. NO GIMMICKS.

**SPRITE MACHINE.**
The latest from Print'n' Plotter. The simplest sprite program to use. Available November. Send for details now.

**ART-O-MATIC.**
New great from Print'n' Plotter. If you want the ultimate in memory saving *and* fantastic graphics, you need ART-O-MATIC. Fully documented instruction book. Available November.




**SCREEN MACHINE.**
The graphics manipulator. Instant machine code techniques to improve graphics and save memory, including text compi 100 page instruction boo

**PAINT PLUS.**
Every facility to produce great screen graphics to use in your own BASIC or M/C programs. No gimmicks. 100 page instruction book.

For years we have been leading the way while others have tried to follow. If you know anything at all about the graphics programs for the ZX Spectrum, you'll certainly already know about PAINTPLUS and SCREEN MACHINE. These two programs have helped thousands of frustrated graphics programmers become computer artists practically overnight.

Now, we are introducing two new programs that will make your graphics even more professional: ART-O-MATIC and SPRITE MACHINE.

ART-O-MATIC is for the programmer who wants superb graphics but insists on the minimum of memory consumption. It's a graphic compiler with facilities to produce all the graphics *and* compile, disassemble, relocate, insert, delete, and save to use in your own programs. If you write complex games like adventures, or if you want to cram hundreds of graphics into a program, this is the program for you.

SPRITE MACHINE is the most exciting graphics program for years. Now *you* can program fast moving graphics simply, easily and professionally. Everything you produce can be located in your own programs (not like some "games" programs), and the facilities are enormous.

Sprite shape and form, motion pattern, speed, colour, trace, collision detection, animation, animation speed, four variations of edge action and animation windows — this is only part of what's available.

Post to Dept YS, Print'n'Plotter Products Ltd., 19 Borough High Street, London SE1 9SE or phone 01-403 3622 with your credit card order.

( ) Please send me the following:

. . . Paint Plus @ £9.95 . . . Art-o-Matic @ £8.25
. . . Screen Machine @ £8.25 . . . Sprite Machine @ £9.95

( ) Please send me details, I enclose a 17p postage stamp.

Name________________

Address________________

( ) I enclose remittance in full.
( ) Please bill my Access/Barclaycard/Mastercard/Visa

Number.

Prices quoted are for UK delivery. Overseas orders please add 20% on quoted price for additional handling (surface rate only).

Print'n'Plotter Products

keep phoning T.P. and tell him how mega amazing he is and what a good editor he'd make until he's unbearable.
**From just your normal average one horned, three eyed guy,**
**Caversham, Jupiter**

*1 Change your newsagent, or better still take out a subscription.*
*2 The management admits nuzzing. It's you but it could be Eddie. Have you tried using a Spectrum?*
*3 Hic!*
*4 More unbearable? Impossible! Ed*

## CUT UP ROUGH

Yahoo! Yippee! Ha haa! Whoop! Wahoo! *(Pass the scissors, Pete, I'm gonna have to exercise my editorial prerogative. Snip! Ed)*. Whoo-eee! Whahoo! Eureka! *(Still there, eh? Snip, snip. Ed).* Burp, yeuch. *(SNIP! Ed).* I've found it, I've found it, I've *(OK, wise guy, you were warned, here comes the editorial red pen. Take that. Ed).* Say, those *JSWII* POKEs sure are good. Of course, I could've told you how to crack it but I didn't want to show you up in front of your fan. *(Careful. The pen is on standby. Ed).*

Finally, I know who this month's trainspotter is. Yep, it's yours truly! *(Well, it's not — so all you're getting is an editorial short back and sides. Ed).*
**John Hawke**
**Roy Bridge, Bonnie Scotland**
P.S. I'm a Devonian by birth.

*I knew there had to be an explanation. T.P. went to Devon on his hols this year and he's never been the same since. Not that he was the same before, of course. Ed.*

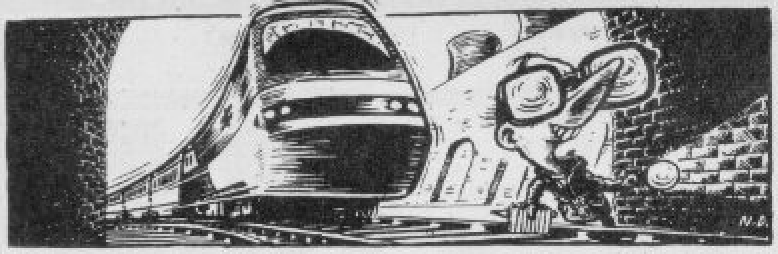
## YOU CAN 'AVE 'IM...

I have kidnapped Dave Nicholls. Unless you send me a Porsche 924, a Trainspotter Award, a Discovery 1 disk drive, a VTX 5000 modem and £1 million worth of Speccy software, he will be *released.*

Anyway back to semi-sanity. You made a right cock-up of last month's *YS*, didn't you? *(There now follows a string of falsehoods, libellous accusations and perfidious pretences that won't make it to the page, as no Trainspotter Award is forthcoming. Ed).* Were you so gobsmacked at the disappearance of the hairy Hacker? If not, why not? If you give me the aforementioned objects, I may persevere in perusing your puny pamphlet. If not, I'll tell all my mates *(Think of a number less than two and then halve it! Ed)* not to read your mag. OK? *(OK! Ed).*
P.S. Hurry up with the ransom, he's getting up my nose.
**Brian 'Wimpo' Hitch**
**Grimsby, Sth Humberside**

*OK, OK you win — the goodies are in the post. All except the Trainspotter Award — you must know by now that no-one has ever managed to beg, borrow, steal or blackmail one of these coveted awards. And may his Hairyness forever moult over your carpet. Ed.*

## THE YS TRAINSPOTTER AWARD



Ah-ha! think you can catch all of us mere mortals out by changing the piccies round, eh?

OK, it's just because I don't work at YS and I don't get sudden urges to start rambling on about large amounts of Hex — my simple computer logic is: IF object = game THEN PLAY object, ELSE leave for someone else to explain it.

Rambling again. This letter's about my amazing bit of trainspotting in *YS* 18. Correct me if I'm wrong *(Don't worry, we will. Ed)* — I mean I only have *Quackshot* — but, you appear to have swopped the screen shot with some unknown game called *Metabolis.*

Please can I have a Trainspotter Award, nice Mr Headman, he whose shining armpits are the very substance of life to so many *YS* underlings (T.P. included). *(That's what you think, matey. I wouldn't like to tell you what sustains me through the long hard grind that is YS, but it's certainly not his lordship's armpits. T.P.)*
**Peter Plumbley, but to all sane people, Matthew Exley, 14 + 2 weeks.**
**Easton-in-Gordano, Bristol**

*C'mon, made-up name, made-up town, in-Gordano my foot. But you're still this month's trainspotter. And for why, you ask? Well, just look at what I had to wade through. Threats from Crispin 'Hawkeyes' Tucker — 'this is voted Trainspotter Award by my gerbils, Harry and Angus, who'll bite your ankles if it isn't'. Oh no, not the gerbils. Or this from a Vogon called D B Edwards, 'So, Earthlings, I present you with a simple choice, either die in the vacuum of space ... or tell me I've won the award.' Such is the hoover of life, eh? Then there are jokes like this one from Paul Edwards — 'I went to the Costa del Sol for my holiday this year, does this make me worthy of the Spain Trotter award?' Did I say jokes? And then there's Chris Richardson going for the sympathy vote, 'Just send the award to the above address and I'll be happy. If you don't ... I shall cry.' You're all gonna have to do better than this next month! Ed.*

## SPLASH IT ALL OVER!

Through rain and shine, I battled my way through *Frank Bruno's Boxing.* My head was smashed in by the Canadian Crusher and my ribs were dessimated by Fling Long Chop. But finally I came through and KOed Peter Perfect — and for what I ask? I'll tell you what — a bit of cheap advertising for *Scooby Doo* and a line about extra boxers on a new tape! So now my thoughts are so rebellious to good ol' Franky and the Elite mob that I've negotiated with my pet dog to dish out the vibes to all the wimps who can't play the big fist on their own. First though, you'll have to use my game name JAY, before entering the following EVBA membership codes:

| | |
|---|---|
| *Fling Long Chop* | A9SINBD9A |
| *Andra Puncher-edov* | F3WIOLBAB |
| *Tribal Trouble* | 07QIOIJC5 |
| *Frenchie* | 91UIIAHL9 |
| *Ravioli Mafiosi* | B4XIONFC7 |
| *Antipodean Andy* | ABRINMDO7 |
| *Peter Perfect* | 92VIICBAA |
| *Scooby Doo* | M3VIIBEI4 |

Yours forever brain damaged
**Jason Hinney**
**Borehamwood, Herts**

*Right then, better get the gloves on and get out there — into the black'n'blue corner. Take that! Ed.*

## MORE INTERRUPTIONS

Toni Baker's Interrupt Manager in *YS* 16 worked wonderfully until I tried it with a Kempston interface attached, when it NEWed. That's because the value on the data bus when an interrupt occurs can be any number from 0 to FFH, so the way in which the interrupt vector routine was initialised meant that the program couldn't work.

This is where yours truly comes to the rescue. First, load the Interrupt Manager and type in this program carefully:

```
10 CLEAR 61419
20 FOR A=61420 TO 61460
30 READ B : POKE A,B: NEXT A
40 SAVE "intruptmng" CODE
61420,123
50 DATA 33, 253, 253, 54, 195, 35,
54, 21, 35, 54, 240, 33, 103, 240, 17,
104, 240, 1, 80, 0, 113, 237, 176, 33,
0, 254, 1, 253, 0, 113, 35, 16, 252,
113, 62, 254, 237, 71, 237, 94, 201
```

Save the new version of the program and call the routine with RAND USR 61420. The only drawback is that you can't store anything from 65021 to 65281.
**Richard Chaney**
**Hull, North Humberside**

*Now why didn't I think of that? Troubleshootin' Pete. Answers on a postcard please! Ed.*

## NEW POKE SENSATION?

You asked for it. Here's the most useful modification to *JSW II* that I can think of. And this is what you do. First, load in the Basic and find the RAND USR start address. Set the variable A equal to this value, then enter the following line of Basic:

```
POKE A,195 : POKE A + 1,0 : POKE A
+ 2,0
```

Needless to say that this works on *JSW* and *JSW II* as well as a lot of other games that are on sale in the shops at the moment.

Since the only letters that appear in Forum have a creep in them, I suppose that mine had better have one. I can honestly say — with my fingers crossed — *(Worra creep you are. I'm not gonna print that! Ed)*
**Ian Ravenscroft**
**Stoke-on-Trent**

*I can honestly say (without my fingers crossed) that your amendment to JSW is the most mega I've yet come across. And no, I'm certainly not letting you lot into the secret of what it does So, don't come creepin' round me. Troubleshootin' Pete.*

# YOUR SPECTRUM
# GO FOR GOLD

**Could you be a champion gamesplayer, a *YS* Gold Medallist? Join in the fun and *Gold For Gold*, you could be in the running to win!**

Now's the time to meet another of our high-scoring-fast-playing-games aces. Catch his hot tips, and learn to play *Daley's Decathlon* the winning way!

If you haven't already tried to Go For Gold, then it's about time you did! We know there must be hundreds of brill games-players out there, so don't hide your skill, enter the *YS* Gold Medallists' Challenge, and you could be our champ. If your scores aren't quite up to scratch, don't give up, you could still be the lucky winner of three free pieces of software if your name gets pulled out of the Ed's hat! This month the surprise package is on it's way to **Gavin Mackenzie** of Romford.

Follow his example, go ahead and play the **YS** game, fill in the coupon and send a photie, you've got nothing to lose and plenty to win! Go to it!

## YS GO FOR GOLD

**My top 5 all-time greats are:**

1 ..............................
2 ..............................
3 ..............................
4 ..............................
5 ..............................

**My top scores are*:**

1 ..............................
2 ..............................
3 ..............................
4 ..............................
5 ..............................

**The next games I'm gonna rush out and buy are:**

1 ..............................
2 ..............................
3 ..............................
4 ..............................
5 ..............................

*You don't have to fill it all in but make sure you specify the level of difficulty for your scores.

**If you're going for gold, stick your mugshot here**

**Make sure you send us a black and white photo of yourself if you've filled in your high scores.**

**I'm going for gold! My name is:**
..............................

**Address** ..............................
..............................
.............................. **Postcode** ..............

**Now ask an independent witness to sign the coupon**

**Independent Witness**

**Name** ..............................

**Address** ..............................
..............................
.............................. **Postcode** ..............

**Complete this coupon and send it to Go For Gold, Your Spectrum, 14 Rathbone Place, London W1P 1DE.**

# YOUR SPECTRUM ALL · TIME · TOP · TEN





**1 — DALEY THOMPSON'S DECATHLON** — OCEAN (up from 3)





**Craig Boddy** 1314,865 · **David Bass** 1202,403 · **Sergio Tavares** 988,971

**2 — SPY HUNTER** — BALLY/MIDWAY (down from 1)

**John Marriot** 2032,375 · **Ian Rogerson** 682,025 · **Matt Humpreys** 316,415





**3 — BRUCE LEE** — US GOLD (RE-ENTRY)





**Mark Brown** 1512,000 · **Graham Conner** 1500,175 · **David Morris** 1362,175

**4 — GHOSTBUSTERS** — ACTIVISION (up from 6)

**Alan Maber** 310,900 · **Paul Golder** 97,100 · **Noel Wallace** 73,100





**5 — MATCH DAY** — OCEAN (down from 2)





**André Elias** 18-0 · **Paul Golder** 18-0 · **Chris Robinson** 18-0

**6 — HYPERSPORTS** — KONAMI (NEW)

**Craig Boddy** 470,693 · **Scott Donaldson** 465,871 · **Sean Rowe** 413,237





**7 — UNDERWURLDE** — ULTIMATE (RE-ENTRY)



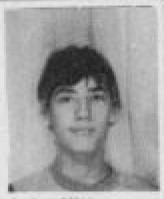


**Ian Hiller** 67% · **Daniel Clegg** 51% · **Valentin Kressler** 36%

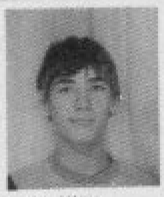
**8 — ATIC ATAC** — ULTIMATE (up from 4)

**Gavin Thompson** 99% · **John Roberts** 99% · **David Harewood** 99%





**9 — JET SET WILLY II** — SOFTWARE PROJECTS (NEW)


**Claudie Jeffries** 100 items · **John Kitts** 91 items · **David Ferguson** 54 items

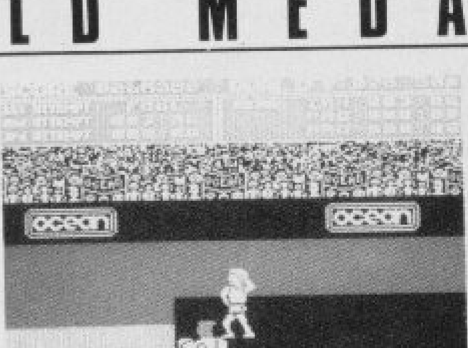
**10 — KNIGHTLORE** — ULTIMATE (down from 5)

**Joh Hudspith** 100% · **Thomas Pedersen** 78% · **John Kitts** 75%

# YS GOLD MEDALLIST

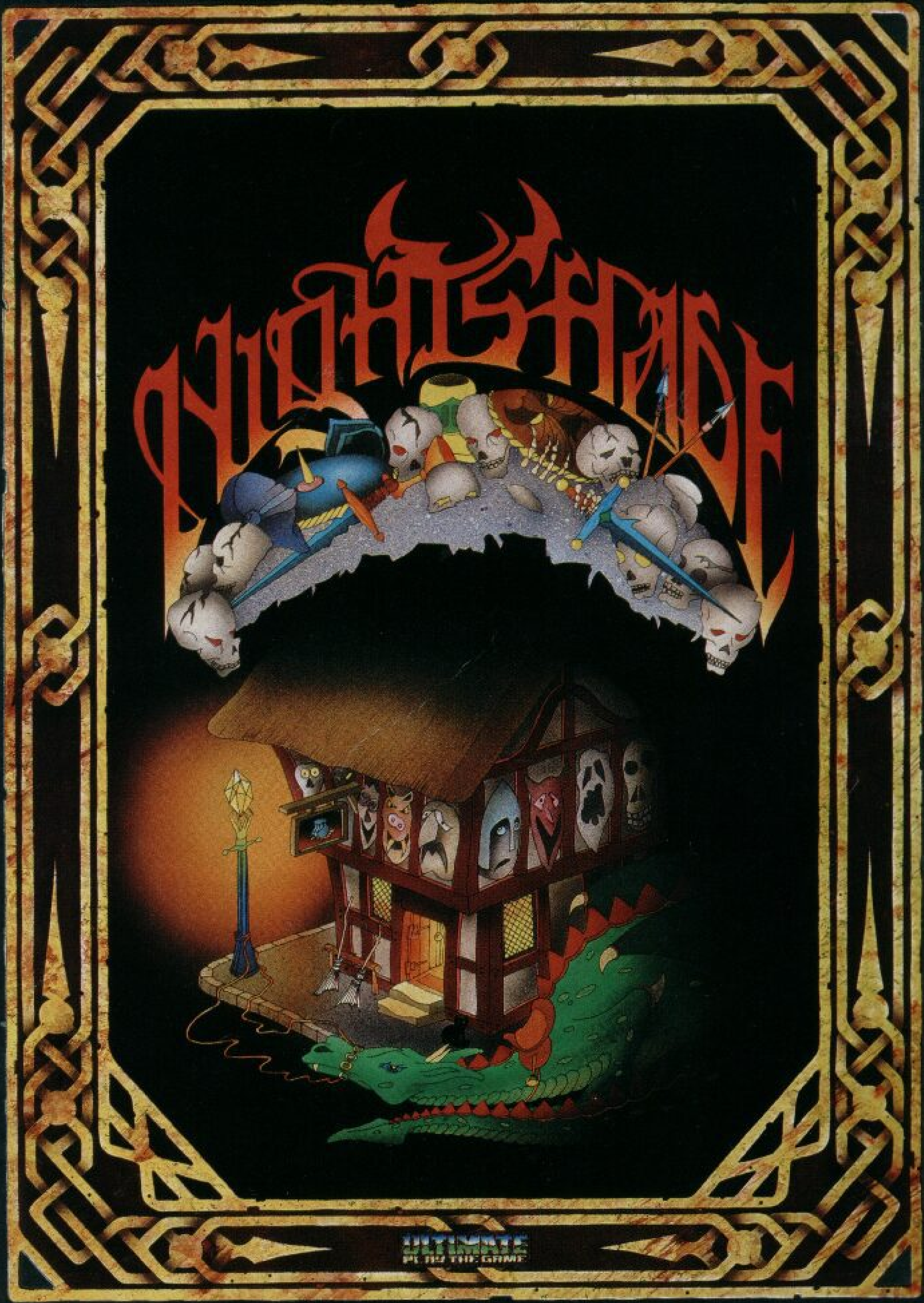


**Name:** Craig Boddy
**Town:** Hayes, Middlesex
**Age:** 16
**School:** Harlington Upper
**Hobbies:** Mastering games that tax my ability (*Wot? Ed.*)
**Fave Game:** *Spy Hunter*
**Fave Music:** Current chart hits




**Day one tips;** In the hundred metres, speed is the only necessity. For the long jump, speed is again vital, but the take off angle must also be somewhere between 44-46. When going for the shot putt, make sure that the angle is between 44 and 47 and that there's a lot of force behind the push. In the High Jump, jump as close to the bar as possible and then let Daley reach an angle of 90 degrees before bringing him down to the crash mat. With the 400 metres, it's good rythmn that's required. **Day two tips;** Taking off into the 110 metre hurdles, pace yourself so that you take only two steps between the jumps. To do this you're going to need some speed. With the pole vault, try at first to get the pole in between the uprights, then when the height goes up to 4.4m, try to position the pole just a little further back. The ultimate aim in the discus is to get the angle of attack at 45 degrees — do this and you should get 75,90m. In the javelin, use the maximum speed possible and throw the pole at an angle of between 47-49 degrees to get a distance of over 100m. The 1500m requires you to run quite fast for the first 700m, and then to slow down so that you can regain your energy.

# 48K SINCLAIR ZX SPECTRUM




"NIGHTSHADE" recommended retail price £9.95 inc VAT.
Available from W.H.SMITHS, BOOTS, J.MENZIES, WOOLWORTHS
and all good software retail outlets. Also available from
ULTIMATE PLAY THE GAME, The Green, Ashby-de-la-Zouch, Leicestershire LE6 5JU
(P&P are included) Tel: 0530 411485

# STAR STRUCK

***Are you seeing stars before your eyes? Don't worry — they could win you one of ten Star STX-80 printers. Bash on!***




Have you read your stars this month? Well, it could just be that your luck's in with this month's star-spangled *YS* compo. Ten eagle-eyed readers will each win a Star STX-80 printer worth £159. So, let's tell you a little about the star of the show.

The STX-80 is a smart cream-coloured thermal printer that produces standard or enlarged text. It prints bi-directionally at a speed of 60 characters per second and it has no problem with bit-image graphics. And it doesn't weigh a ton either — at just 7lbs you shouldn't have to add structural support to the table! Each of the printers comes with a hundred foot roll of heat sensitive paper — so now you'll have no excuse for not dropping a line to *Forum*. All in all, this is a real hot property. Just thank your lucky stars that one can be yours for free!

## STAR STARING MAD

Now we don't like to make things difficult for you. (*Spoilsport, I do! Ed*). Ignore him. (*We do anyway! T.P.*). No, we're not asking you to perform any star turns, we just want you to go star gazing. Take a look at the cartoon and see how many stars you can spot. Just remember there are stars, and stars and we want 'em all! When you've stared till you've gone quite starry-eyed, put a ring round each one in the piccy and then fill in the total number on the coupon. Cut them both out, pop 'em in an envelope, address it to Star Compo, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE, write the number of stars on the back and then put it in the post pronto. The rest is easy — you just have to sit back until the first ten correct answers are picked out of the Ed's compo cardboard box. To while away the time, just wish upon a Star!

## STAR CHAMBER RULES

Entries should reach us by no later than November 31st 1985. (*How many days in November dumbo? Ed*) Oops, November 29th — or somewhere between the two.

Each entry must include a completed form and the cartoon with the number of stars ringed on it. And don't forget to put the number on the back of the envelope.

The Editor's decision is final, so it's no use telling him what a star he is. (*An' I am, I am! Ed*).

## STAR COMPO

Put a ring round each star you've found in the cartoon then complete the coupon (or a photocopy of it) and send it to Star Compo, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE. Don't forget to write the number of stars on the back of the envelope.

**I want *YS* to make me a Star — or at least to send me one as a prize! I've counted ....... stars.**

Name ..........................................................................................................

Address ......................................................................................................

....................................................................................................................

.................................................................................. Postcode ......................

# PLAY IT AGAIN, SAM

***A big noise in programming,* Tony Samuels, *has composed a zippa-de-do-da of a music package that'll set your Speccy buzzin'. You're not going to believe your ears!***

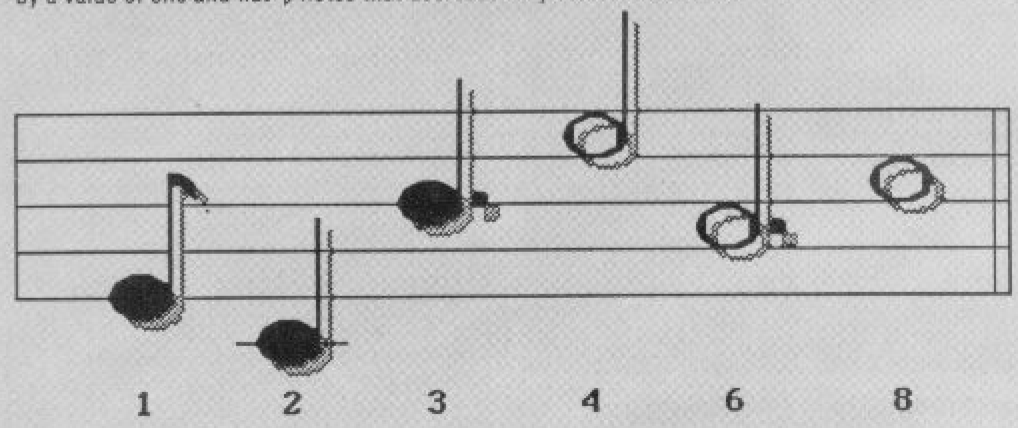
OK, I've got to admit that the Speccy's not exactly famed for its outstanding sound facilities. But I've just about had it up to here, what with Commie 64 owners (*Wash your mouth out! Ed*) shunning my Speccy's burping sounds and Amstrad owners laughing at its chesty cough. So, to turn the tables on them all, I've written a program that'll transform the Speccy's humble Beep statements into the most mega amazing music you've ever heard a machine utter. Well, *I'd* rather listen to it than to an Amstrad hi-fi system let alone one of their crummy computers! (*You tell 'em, Tone! Ed*).

What we have here is a program that'll replace the boring bip, bip, bip of the Beep with a full warp effect. It really does produce synthesised sound! It works by using two sawtooth waveforms in anti-phase with each other — and though even I don't really understand what that means, it doesn't half impress those thicko 64 owners. Still, the mechanics aren't important — all you need to know is how to construct data statements for the Beep command using length of note followed by the pitch of the note. Just remember that this program, outclasses the sound systems in professional Speccy software and now you can include it in your own programs. Roll over Beethoven!

## GET NOTED!

Unless you're a budding Beethoven, you're going to want to add a touch of class to your programs using tried and tested pieces of music. Well, it's quite possible to transfer anything from Dvorak to Duran Duran using *Samsynth*, provided you've got the sheet music in front of you. And what's more, you don't have to read a note of music — though it'll help!

First, you must learn to recognise the comparative lengths of each note and be able to work out their pitches. Take a look at the illustration below — it'll help you to work out the data statements for transcribing almost any piece of music. Remember that they take the form, length of note followed by pitch of note. You'll also have to watch out for sharp (#) notes which raise the pitch by a value of one and flat ♭ notes that decrease it by the same amount.




Now take a look at this snatch of our mystery tune and practise turning the notes here into data statements. With a bit of trial and error, you should soon have it cracked and you can move on to the music of your choice.

**Look to see which key the tune is played in. Here it's C Major — you can tell by the absence of sharps and flats, so you don't have to worry about altering the pitch values.**

**Though this note has a value of four in length, you'll have to extend it to six to account for the rest that follows it. To give you a start, we'll give you this one — it's Beep value is 6,14. Check it out on the chart.**

**Don't be put off by the double tail. It just means that the note is in both the melody and harmony lines. You should still include it because it has an upward pointing tail, the symbol of a melodic note.**




**This is the bass clef but don't let it bother you. Most of the time it only holds the harmony while we're concerned with the notes that play the melody. They're the ones on the upper stave, the treble clef, with their tails pointing upwards.**

**Take a rest — you deserve it! Here the rest symbol is worth one beat out of the whole bar but as *Samsynth* has no rest facilities (*Unlike its half-awake programmer! Ed*), it's better to extend the length of the previous note by the length of the rest.**

**When two or more notes are joined together, they lose none of their individual value. These two and the four following still count as one each.**

## SOUND TRACKIN'

Now the first thing you'll presumably want to do is start using synthesized tunes in your own programs, so here goes. First enter and synthesize a tune using *Samsynth*. Then save the compiled tune and write down the number of bytes used and how many notes there are in it. Next load in the synthesizer routine using LOAD""CODE — the routine is 260 bytes long and loads at location 64750. Right, now load in the compiled tune code at an address of your choice remembering, of course, to clear enough space using the CLEAR command. To play your tune is as simple as POKEing the number of notes and the start address of the tune code into the synthesizer routine and typing RANDOMIZE USR 64750.

Now, don't panic if you haven't quite got all that 'cos I'm going to run through it using a concrete example. Load in *Samsynth* and then mess about with the tune until it's playing to your tastes. And before you ask, no, I'm not going to tell you what the tune is — you'll only solve that mystery by typing in the program! Right, done that? Now save it using option I. Load in the synthesiser routine and clear enough memory for it:

**CLEAR 61999: LOAD""CODE**

Now load in the tune code — and don't forget to specify an address:

**LOAD""CODE 62000**

OK, let's put the show on the road:

**LET ADDRS=62000: POKE 64758,ADDRS—256*INT (ADDRS/256):POKE 64759,INT (ADDRS/256)**
**LET NOTES=137: POKE 64576, NOTES—256*INT (NOTES/256): POKE 64757,INT (NOTES/256)**

Finally, pin 'em back and play the tune with

**RANDOMIZE USR 64750.**

## MUSICAL MENU

**Here are the full details of all the options offered to you on the menu.**

S Lets you change the speed that the synthesized tune is played at.

A Compiles the Beep values in the data statements into a form that can be used by the synthesizer routine.

W Lets you change the wave length and depth values. These really determine the synthesized sound effects that the routine can produce.

P This is the play option. You'll find that certain wavelengths and depths will cause a clicking sound — when this happens just return to the menu and change the values.

C Now you can really drive 'em up the wall. This option plays the tune over and over and over ...

I You'll find this the most important option when you come to incorporate synthesized tunes in your own programs. Select it and you'll be told how many notes in your tune and how many bytes it uses. Write them down for reference later. Next enter the name you want the block of code to be saved as — you'll be returned to the menu as soon as it's saved.

U This option saves the Basic loader with your tune data and the synthesizer routine. To load it back in, just type LOAD"" Easy innit?

B For all you nostalgia freaks this lets you hear Speccy music as it used to be played — in glorious Beeps! Oh, they don't write 'em like they used to — thank goodness.

## SAMSYNTH

**Yep, it's our ol' friend the Hex loader. What more is there to say but type it in and run it. 'Way you go then ...**

```
10 CLEAR 62199
20 INPUT "START LOCATION >";SL
40 LET A=10: LET B=11: LET C=1
2: LET D=13: LET E=14: LET F=15
50 LET CQ=0
60 LET T=0
100 INPUT H$
105 IF LEN H$<>2 THEN  GO TO 10
0
107 IF H$="XX" OR h$="xx" THEN
GO TO 200
110 LET H=0
120 LET H=H+16*VAL H$(1)
130 LET H=H+VAL H$(2)
140 POKE SL,H: LET SL=SL+1
145 LET CQ=CQ+H
150 PRINT TAB (T);H$;: LET T=T+
3: IF T=33 THEN  LET T=0: PRINT
160 GO TO 100
200 INPUT "CHECKSUM >";CS
210 IF CS<>CQ THEN  PRINT : PRI
NT "DATA ENTRY ERROR": STOP
220 PRINT : PRINT "DATA OKAY"
```

**With the Hex loader in, it's time to tackle the code. Type it in one byte at a time until you're asked for the checksum at the end. If it's wrong, you'll be given an error report and you'll just have to go back and re-check your typing. Once it's correct, save it to tape.**

```
C3 A9 FD C3 03 FD 6B 00 02 B0 0C
00 55 0A 00 00 0A 00 0A 00 00 F3
21 00 00 E5 2A FB FC 2B 22 FB FC
3E 00 BC C2 1C FD BD C2 1C FD E1
FB C9 2A FA FC ED 5B FC FC ED 52
11 01 00 CD B5 03 2A FC FC 11 01
00 CD B5 03 3E 7F DB FE FE FE CA
19 FD 2A FC FC ED 4B FE FC 09 22
FC FC E1 23 3A FF FC BC C2 07 FD
3A 00 FD BD C2 07 FD E5 2A FB FC
2B 22 FB FC 3E 00 BC C2 6D FD BD
C2 6D FD E1 FB C9 2A FA FC ED 5B
FC FC ED 52 11 01 00 CD B5 03 2A
FC FC 11 01 00 CD B5 03 3E 7F DB
FE FE FE CA 19 FD 2A FC FC ED 4B
FE FC ED 42 22 FC FC E1 2B 3E 00
BC C2 58 FD BD C2 58 FD C3 04 FD
2A F4 FC ED 4B F6 FC 0A 32 F8 FC
03 0A 32 F9 FC 03 0A 32 FA FC 03
0A 32 FB FC 03 0A 32 FC FC 03 0A
32 FD FC 03 0A 32 FE FC 03 0A 32
FF FC 03 0A 03 32 00 FD C5 E5 CD
F1 FC CD 8E 02 7B FE FF E1 C1 CA
F0 FD 3E 64 C9 2D 3E 00 BD C8 C3
B0 FD 00 00 00 00
```

**Do I hear music? Not yet — just type in the Basic loader and save it in front of the code on your tape. Then load the whole kaboodle back in again — Basic plus code. The Basic listing already has an example tune in it, so run the program and choose the Synthesise routine. Then pin back your lugholes. If you want to put your tune into the program then you must enter it as data statements using the Beep command format (length of note, pitch of note) between lines 1-8999.**

```
10 DATA 2,7,3,12,1,14,1,16,1,1
4,1,12,1,11,4,9,4,21,2,19,2,16,1
,17,1,16,1,14,1,12,6,14
20 DATA 2,7,2,12,1,12,1,14,1,1
6,1,14,1,12,1,11,4,9,4,21,2,19,2
,16,1,17,1,16,1,14,1,16,6,12
30 DATA 1,19,1,19,2,12,1,12,1,
14,1,16,1,14,1,12,1,11,4,9,4,21,
2,19,2,16,1,17,1,16,1,14,1,12,6,
14
40 DATA 2,7,2,12,1,12,1,14,1,1
6,1,14,1,12,1,11,4,9,4,21,2,19,2
,16,1,17,1,16,1,14,1,16,6,12
50 DATA 2,19,3,24,1,26,1,28,1,
26,1,24,1,23,2,24,6,19,2,24,2,16
,1,17,1,16,1,14,1,12,6,14,2,7,2,
12,1,12,1,14,1,16,1,14,1,12,1,11
,4,9,4,21,2,19,2,16,1,17,1,16,1,
14,1,16,6,12,2,19,2,24,1,24,1,26
,1,28,1,26,1,24,1,23,1,24,1,23,2
,21,3,19,1,19,2,24,2,16,1,17,1,1
6,1,14,1,12,6,14
60 DATA 2,12,1,12,1,14,1,16,1,
14,1,12,1,11,4,9,4,21,2,19,2,16,
1,17,1,16,1,14,1,16,12,12
```

**Lines 10-60** These lines contain the data for your music. This is the area that you'll need to store your own music data in.

```
9000 DATA 9999,9999: RESTORE 1
```

**Line 9000** This line marks the end of your music data.

```
9005 CLEAR 32759 : LET E=0
```

**Line 9005** This clears some space in memory for the machine code routine, plus a bit of room for your tune (hey, lyrics already!)

```
9010 LET SPEED=PEEK 32760: LET D
EPTH=PEEK 32762: LET WAVEL=PEEK
32761
```

**Line 9010** The values of Speed, Depth and Wavelength are stored in high memory so that they're not lost when the programs run.

```
9015 INK 7: PAPER 1: BORDER 1: C
LS
9020 PRINT "         **** SAMSYNTH
 ****"
9025 PRINT : PRINT : PRINT : PRI
NT
9030 PRINT "PRESS :-
                     S TO CHANGE
 SPEED
                     A TO SYNTHE
SIZE
                     W TO CHANGE
 WAVE EFFECT": PRINT
9035 PRINT "         P TO PLAY
                     C FOR CONTI
NUOUS PLAY"
9036 PRINT '"         I SAVE COM
PILED TUNE
                      U SAVE DAT
A AND PROG"
9037 PRINT '"         B TO PLAY
TUNE IN BEEPS"
```

**Lines 9015-9037** This routine prints the menu.

```
9040 LET A$=INKEY$
9041 IF a$<>"b" AND a$<>"B" THEN
  GO TO 9045
9042 RESTORE : INPUT "SPEED ";sp
p
9043 READ b1,b2: IF b1=9999 OR b
2=9999 THEN  GO TO 9045
9044 BEEP b1/spp,b2: GO TO 9043
9045 IF a$="s" OR a$="S" THEN  C
LS : PRINT "     PRESENT SPEED I
S=";speed: INPUT "TYPE IN NEW SP
EED=";SPEED: POKE 32760,SPEED: G
O TO 9015
9046 IF A$="U" OR A$="u" THEN  I
NPUT "FILE NAME>";F$: SAVE F$ LI
NE 9999: SAVE "SAMSYNTHC"CODE 64
750,270
9047 IF E<>0 THEN  IF a$="I" OR
a$="i" THEN  CLS : PRINT "TUNE L
ENGTH ";e;" NOTES"''e*9;" BYTES
USED": INPUT "FILENAME>";f$: SAV
E f$CODE 32770,e*9: GO TO 9000
9048 IF A$="I" OR A$="i" AND E=0
 THEN  CLS : PRINT "YOU MUST SYN
THESIZE THE TUNE    BEFORE YOU C
AN SAVE IT": PAUSE 0: PAUSE 0: G
O TO 9000
9050 IF A$="W" OR a$="w" THEN  C
LS : PRINT "     PRESENT DEPTH I
S=";DEPTH: PRINT : PRINT "  PRE
SENT WAVE LENGTH IS=";WAVEL: INP
UT "TYPE IN NEW DEPTH=";DEPTH: I
NPUT "TYPE IN NEW WAVE LENGTH=";
WAVEL: POKE 32761,WAVEL: POKE 32
762,DEPTH: GO TO 9015
9055 IF A$="A" OR a$="a" THEN  C
LS : GO TO 9075
9060 IF a$="p" OR a$="P" THEN  C
LS : PRINT "CERTAIN VALUES FOR W
AVELENGTH,  DEPTH AND SPEED WILL
 PRODUCE A  CLICKING SOUND,IF TH
IS HAPPENS, PRESS ANY KEY TO RET
URN TO MENU": RANDOMIZE USR 6475
0: GO TO 9015
9065 IF a$="c" OR a$="C" THEN  C
LS : PRINT "TO ESCAPE,PRESS BREA
K": PRINT : PRINT : PRINT "THEN
TYPE GOTO 9000 TO CONTINUE": RAN
DOMIZE USR 64750: PAUSE 50: GO T
O 9065
9070 GO TO 9040
```

**Lines 9040-9070** This section reads the keyboard and performs the appropriate function.

```
9075 LET d=32770
```

**Line 9075** This line sets a counter to be used in the main loop following.

```
9080 RESTORE : DIM N(150,2): FOR
 f=1 TO 150: READ X,Z: IF X=9999
 AND Z=X THEN  GO TO 9090
9085 LET N(F,1)=X: LET N(F,2)=Z:
 NEXT f: STOP
9090 LET f=f-1: PRINT AT 8,0;"No
te ) "
9095 FOR e=1 TO f
9100 PRINT AT 8,8;e
9105 LET freq=(1.0594631^n(e,2))
*100
9110 LET len=INT (freq*(n(e,1)/s
peed))
9115 POKE d,len-(INT (len/256)*2
56)
9120 LET d=d+1
9125 POKE d,INT (len/256)
9130 LET pit=INT ((466432/freq)-
128)
9135 LET d=d+1
9140 POKE d,pit-(INT (pit/256)*2
56)
9145 LET d=d+1
9150 POKE d,INT (pit/256)
9155 LET d=d+1
9160 POKE d,0
9165 LET d=d+1
9170 POKE d,0
9175 LET d=d+1
9180 LET w=wavel: LET di=depth
9185 POKE d,w
9190 LET d=d+1
9195 POKE d,INT (di/256)
9200 LET d=d+1
9205 POKE d,di-(INT (di/256)*256
)
9210 LET d=d+1
9215 NEXT e
9220 LET E=E-1
```

**Lines 9080-9220** This is the main loop, which puts the ordinary Speccy Beep values through the mangle of Tony's equation crunching. The remains are POKEd into memory. If you find that you have a tune longer than 150 notes, then change the value of N() and the size of the F loop in line 9080 to the required length.

```
9225 POKE 64758,32770-256*INT (3
2770/256)
9230 POKE 64759,INT (32770/256)
9235 POKE 64756,e-256*INT (e/256
)
9240 POKE 64757,INT (e/256)
9245 GO TO 9015
```

**Lines 9225-9245** These lines POKE the start location of the compiled music, plus the number of notes used into the synth routine ready for play. Line 9245 sends the action back to the main menu.

```
9999 CLEAR 32759: LOAD "SAMSYNTH
C"CODE
```

**Line 9999** When you save the program, use the format SAVE"SAMSYNTH"LINE 9999 and save the code directly after with SAVE"SAMSYNTHC"CODE 64750,270. Or, alternatively, you could use option 'U' from the main menu.

# elitism!

***Are you ready to face the final frontier? Space is a dangerous place so stay at home if you're faint-hearted. But the rest of you should join Commander David Bishop as he battles his way through the infinite variety of Firebird's Elite.***

It's taken an eternity but now the sitting around in space station departure lounges is almost over . . . fellow space travellers, you are grounded no longer. *Elite* has arrived to prove there's plenty of life left in Speccy software, not to mention the eight galaxies each with two hundred and fifty planets set in deep space.

Climb aboard your Cobra MkIII trading and combat craft, check your wallet for the 100 credits you start with (hardly enough for a GalacDonalds) and run through the list of weapons. There's the cheap and cheerful Front Pulse Laser, Zieman deflection shields, a Lance & Ferman 'seek and kill' missile system and the Holodirect & Grav-Distort communications system. Sounds impressive, huh? Well, it's interstellar peanuts compared what you'll need to become a member of the order of *Elite.*

But getting your hands on the hardware you'll need, requires ready cash. Your best bet is to start trading — buying cheap and selling on the other side of the galaxy at a premium. And if you're really out to make a fast buck, you can always try dealing in drugs — but don't be surprised when you find both pirates and police on your tail. In space there's no mercy, and justice is dispensed with the gun.

And as if that's not enough to contend with, you'll find yourself faced with special problems that can spell death if a solution isn't found — and fast! How will you react when your ship is infected with the plague, for example?

To win at *Elite,* you're gonna need the commercial acumen of a merchant banker, the stategic skills of a chess grand master and the combat reactions of a jet pilot from Earth back in the pre-dawn days of the 1980's and 90's. But then nobody said it was going to be easy!

## LAUNCH PAD

*At the start of your space mission, your Cobra MkIII isn't exactly the hottest hardware in the galaxy — you've only got three homing missiles and one forward firing laser. And a hundred credits ain't gonna go far — a bit like trying to turn a Renault 5 into a Rolls with only a tenner in your trousers. Your best bet is to stick to short hops at the start and only trade in safe commodities, building up your credits that way.*

Lost in space? Well, there's no need to panic — just check here which planetary system you're in. Prepare for a warm welcome on this planet — a sort of Come Inside, Lave!

This is the stuff that makes the universe go round — the readies. Make sure you invest your initial hundred credits wisely as you're gonna need a small fortune before you get your hands on life's little luxuries — you know, docking computers and intergalactic hyperspace drives.




Keep an eagle eye on your legal status. No problems if you're clean but prepare for police harrassment as soon as you acquire a criminal record or go on the run as a fugitive.

You start out with the measly skill level of 'harmless', but as your kills are registered by the Galcop Federation Law Centre your rating'll rocket through 'mostly harmless; and 'deadly' until you eventually reach the dizzy heights of 'elite'.

This tells you which planetary system your hyperspace drive's locked onto — use your short range scanner to make your choice. Looks like you've plumped for a trip to Diso.

Fuel is measured in light years of travel. Keep a close eye on your gas tank as the maximum you can pick up at a space station is seven light years' worth.

Here's a breakdown of the equipment you have on board — not bad going so far. Each time you splash out on something, the display is immediately updated.




Just to give you an idea of how much ready credit you'll need to equip your ship, take a look at the list of fancy gadgets on offer — and their equally fancy price tags. Mind you, without them you don't stand a chance of making it to the top.

## CHART TOPPIN[G]

*The one thing you've got to bear in mind about the unknown vastnesses of space, is that you don't know much about them! So, to help you plug some of the gaps in your knowledge, use the short range chart to have a quick shufti at your destination. Once you've selected a planet, have a look at its economic profile — with a bit of practice you'll soon know whether it's worth paying a visit.*

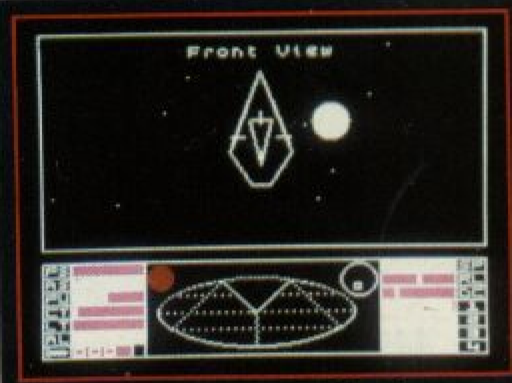
As the humanoids say, there's no space like home! Your home, or at least where you crashed out for the night, is marked by the large cross on the screen.

The short range chart shows all the registered planets in the galaxy and the radius of the circle indicates the range you can jump in hyperspace. So, the more fuel in your tanks, the larger the circle grows.

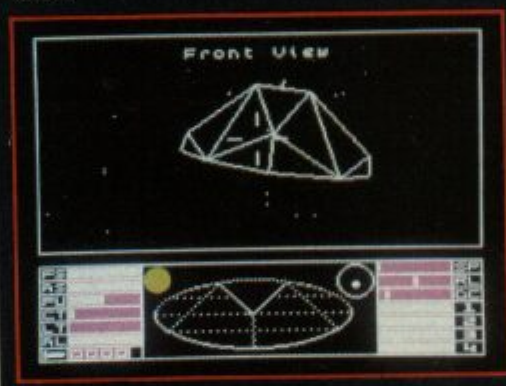



If you're travelling round the galaxy, you'll want to know if the natives are friendly. Move the cursor over the chosen planet and you'll be shown the basic info you need.

## STAR WARS




**This is a Fer-de-Lance and best avoided — as well as its own missiles it has an ECM system so don't waste your missiles — hightail it out of here unless you have an ECM of your own.**

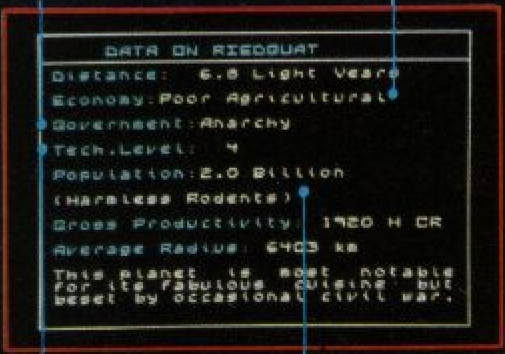



**If you're wondering what your ship looks like — feast your eyes on this Cobra Mk III. Usually, you're in no danger from them but it's still an idea to arm a missile when one's around. The first rule of space is, trust no-one.**

## PING

Some governments are more stable than others. Corporate states' shouldn't give you too much aggro. Riedquat is run along the same lines as *YS*, as an anarchy! Don't go zippin' off here, loaded to the bulkheads with contraband unless you're prepared for an interstellar scrap.

The economic profile of each planet lets you know what to expect when you get there — essential stuff for all budding traders. Since Riedquat has a poor agricultural economy you can expect to make a healthy profit with hi-tech goods to trade. Where d'you think Rabbit software came from?




The technical level of each planet is given a rating from one to twelve. It'll give you an idea of the sort of goodies you can lay your hands on there. Don't worry if your fuel's running low, though, 'cos it's readily available on all planets.

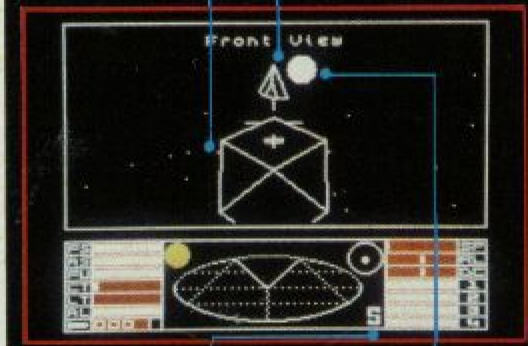
Riedquat is inhabited by harmless rodents so you shouldn't have too many problems here. (*Oh, and aren't The Rats rodents? Ed*). Not all the aliens are quite so hospitable, though.

# TRADE UNION

*Before you can start trading, you'll have to master the tricky process of docking with space stations. Practise on your home planet until you've got it right. Then plan your route through the galaxy so that you call in at different types of planet each time you dock.*

This is the planet's space station, a sort of orbital airport where all trading and re-equipping takes place — a bit like stocking up on the old duty-frees at Gatwick. All the planets have several of these Coriolis space stations orbiting at different altitudes in neutral territory.

Docking with the space stations is a right pain in the reverse thrust region — unless, that is, you're rich enough to buy a docking computer. Without one, you'll have to manoeuvre manually into the acess tunnel facing the planet. And if you thought three point turns were difficult you ain't tried nothing yet . . .




The S tells you that you're in neutral territory around a space station — and you'll be relieved to know that nothing can touch you here unless you're on the police wanted list.

In space the suns never set, of course. Don't steer too close or you could find your ship overheating — keep your eye on the cabin temperature chart.

● Space is very much like a supermarket, only bigger! The range of goods covers everything from food to narcotics and slaves — and you don't see many of them in Sainsbury's.

As soon as you've docked, you'll be able to see how much the local produce will set you back. The more you shop around, the bigger the bargains you'll find — but you have to weigh up whether it's worth travelling half way across the galaxy to save yourself a few credits.




● Psst, wanna make a quick killing in the markets? Find two planets within seven light years of one another that've got fairly stable governments. One must be industrial, the other agricultural. Now shuttle back and forth, between them trading computers with the peasants and furs with the techies.

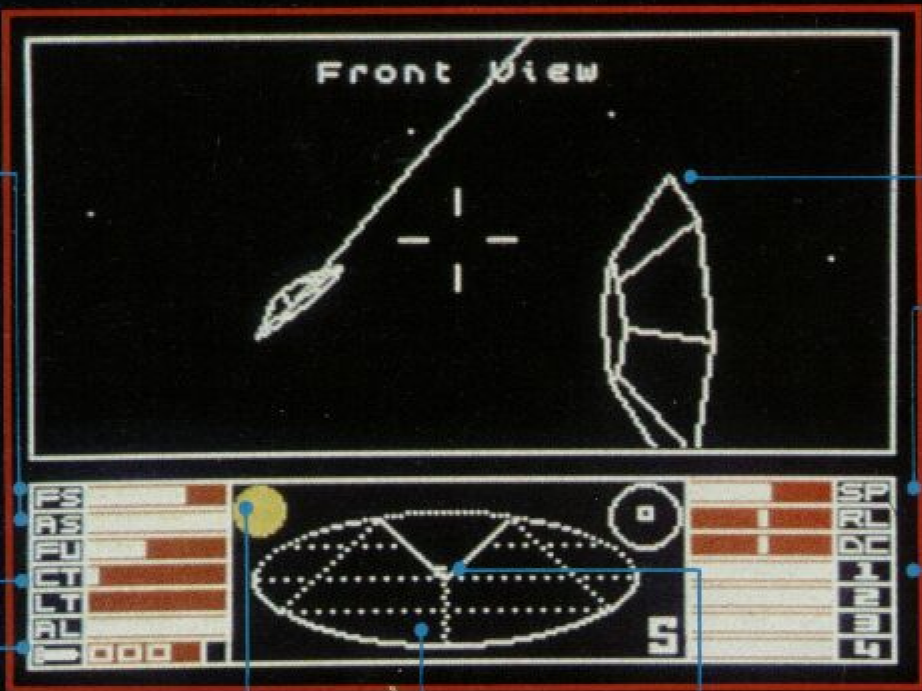
● The big question is why bother trading at all, when it's only good ol' killing and maiming that increases your rating in the universe. Well, you're not gonna last long against the big boys unless you're all togged up with the latest in offensive and defensive weapons — and they cost money. So, get out there and sell it to them before they lay one on you.

*Out there, in space, only the fittest survive. No matter how sharp you are at selling or how quick you are at snapping up the bargains, you must be able to pack a punch to protect yourself. Like a medieval knight strapped into his armour, you must practise the skills of the quick kill in your Cobra Mk III spaceship. You must learn to tell instinctively when it's right to attack and when to retreat. There's no other way that you'll ever join the ranks of the Elite!*

You've got both fore and aft shields to protect you from those minor inconveniences of space war, such as direct hits. Watch out though, 'cos your energy banks will take a real hammering in the face of persistent enemy fire. If your front shields go down, you'll find it prudent to run like billy-o and let the aft shields take the strain.

Avoid the temptation to get trigger happy. Non-stop laser firing will cause them to overheat and the automatic cut-out circuits will come into play. Then you could find yourself with your lasers down around your ankles just when you need them most.

At any one time, your Cobra Mk III can carry up to four homing missiles. But before you launch them they must be locked onto target. Once they're gone, there's no stopping 'em. If you're really ace, you can out manoeuvre them or you can use your ECM (Electronic Counter Measure) System to destroy them — if you've bought one.




● A sneaky trick if you don't have qualms about shooting people in the back is to perfect the art of taking ships out using the rear view of your Cobra.

Don't hang around here — *Dive . . .* These are Thargoids you're tangling with, some of the deadliest aliens in the universe. It's said that they've had their fear glands removed. Nasty for them and doubly nasty for you.

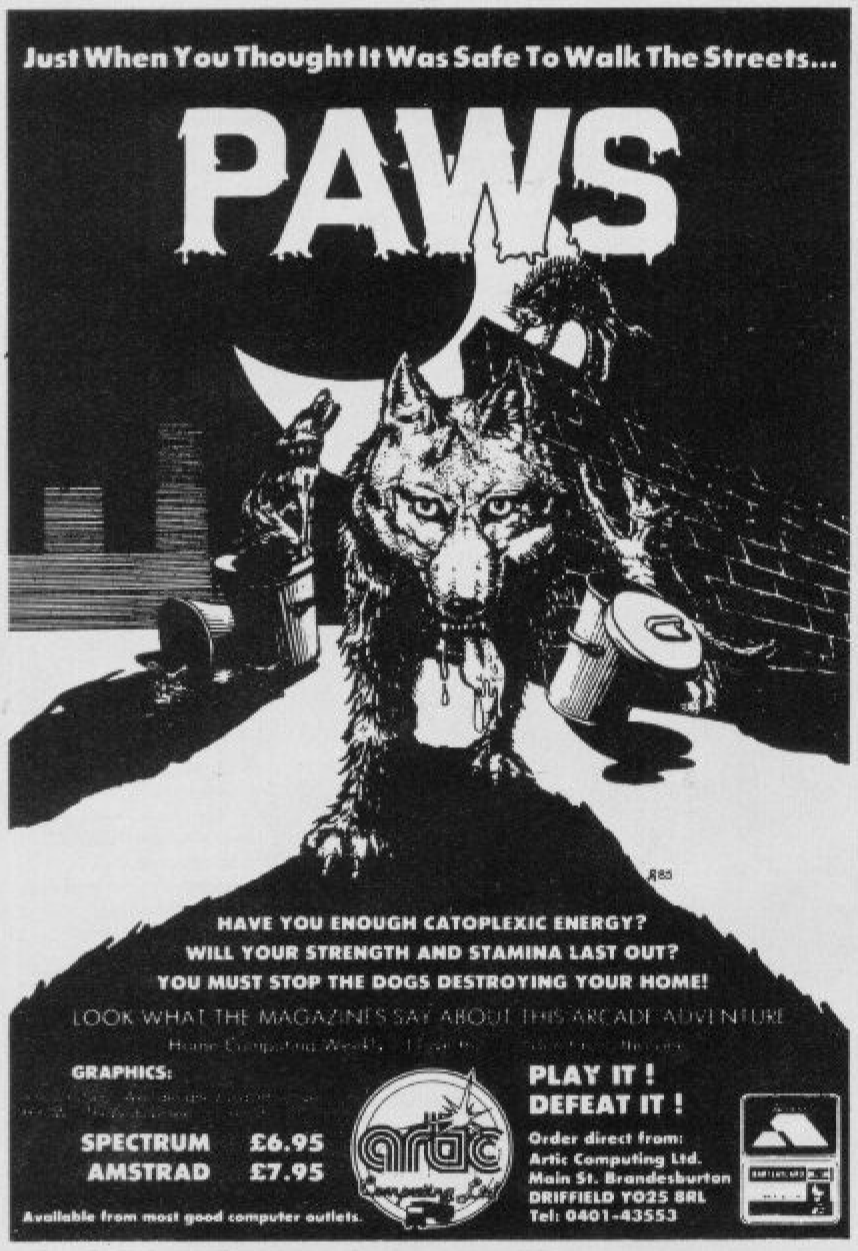
A good space pilot knows when to put his foot down and when to ease off. Watch your forward velocity level, speed to the uninitiated. Keep it on max when approaching a planet and take it right down to minimum when docking.

Keep a sharp eye on your energy banks — if you sustain a direct hit when they're at zero, they'll still be mopping up your molecules come doomsday. It's a wise idea to acquire an extra energy unit as quickly as possible as it'll replenish your banks at a much higher rate than normal.

You're on course for a smooth ride if your status display is green but as it changes through yellow to red then you'd better watch out — there's trouble ahead!

As a humanoid-type organism, you haven't got eyes at the back of your head! That's why your 3D scanner is so useful. You'll soon be able to judge just where the enemy is, how fast it's travelling and when you should start panicking.

As soon as you see the enemy on the scanner, spin the Cobra round until the target is in front of you, then climb or dive until he's bang in the middle of your sights. Now let 'im have it!


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# SHRINK WRAPPED

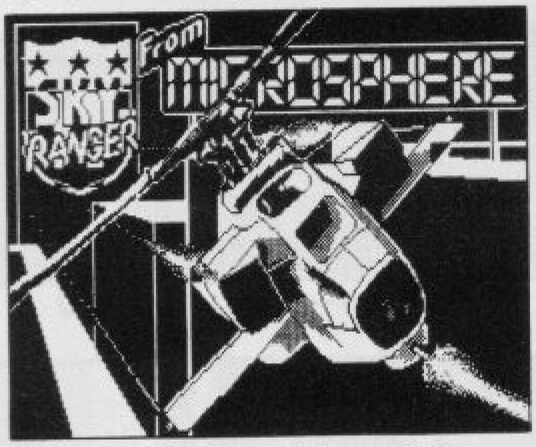
**YS MegaBasic *is a big program that's had an enormous impact. But for all you who believe that small is beautiful,* Keith Symonds *has the solution. A* YS MegaBasic *program that'll shrink your screens and then print them onto a ZX printer.***

There was a time when the world was awash with ZX printer paper. Ah, those halcyon days! You couldn't move for programs that let you dump screen displays up to eight times larger than real size to Sinclair's hot piece. How times change — now everyone's short of the shiny stuff — and no, I don't mean just money!

That's why I've devised a routine to squeeze four full sized screen displays into one. And what's more, I did it using *YS MegaBasic!* The very useful GET, OUT and PROCedures meant that the program could be short and, best of all, quick to type in.

Of course, it's still not easy to shrink a screen by half if you still want to retain any semblance of detail. My routine scans the area needed for shrinking, finds out if every other pixel is on or off and then determines whether or not to plot a pixel in the area where the shrunk screen is to be placed. Tricky stuff you might think, but easily taken care of with GET command.

All that's left to be done is to place the display into one of the four corners and then the second program puts them all onto one display to be saved or printed. Easy really, provided of course, that you have a copy of *YS MegaBasic.* If you haven't, isn't it about time you saw a shrink!




**Pick up a picture, any picture — this program will take 'em all. Now, load it into the Shrinker program ...**



**... and just watch that screen$ go for the slimmers' awards. Maybe there's a little lack of quality, but remember you're working in a quarter of the size.**




**Why not bring three friends to the party. The Mixer program will let you move 'em round, and then save a compiled pic of the lot!**

## SHRINKING PROCEDURES

**For all you *YS MegaBasic* hacks, here's an explanation of the parameters used in the Shrink PROCedure:**

**SHRINK x,y,u,d,b,c,e,f**

**x and y are the pixel co-ordinates of the bottom left-hand corner of the area to be shrunk.**
**u is the number of pixels the area is across.**
**d is the number of pixels the area is down.**
**b is the amount to be shrunk in the u direction.**
**c is the amount to be shrunk in the d direction.**
**e and f are the pixel co-ordinates of where the shrunk area will be placed.**

## SHRUNKEN EDITOR

**Load your copy of *YS MegaBasic* and then enter the program before saving it to tape. If you're not using microdrives, then change the following lines to:**

20 LOAD AS SCREEN$
170 SAVE AS SCREEN$

**Now run the program and it'll ask you for the name of the screen display you want to shrink. Start the tape and the program will load the piccy. You'll have to be patient now while you wait for the display to be shrunk in the wash!**

**You'll then be offered a choice of where you want to place your shrunken screen. 1=top left, 2=top right, 3=bottom left, 4=bottom right.**
**If you're using tape, it's an idea to save your screens in number order for the mixer program. Finally, the program will save the screen display.**

```
  10 CLEAR 29999:PCLEAR
  14 SPRINT 6,85,5,1,"SHRINK":SP
RINT 0,95,2,1,"By Keith Symonds"
:SPRINT 60,105,2,1; 5:6:85"
  15 INPUT "Name of screen displ
ay:" A$
  20 LOAD *"m";1;A$SCREEN$
```

**Lines 10-20** These lines shift the Ramtop and load in the screen$ you want to shrink.

```
  25 GET_0,30000,11,15,13,17
  26 WINDOW_11,32,12,32:CLW_0
```

**Lines 25-26** These lines capture the bottom right of the screen...

```
  30 SHRINK_0,88,255,87,2,2,128,
4
```

**Line 30** ... and this line calls the Shrink PROCedure, which squashes the top half into the bottom right.

```
  35 GET_0,32000,16,16,6,16
  40 PUT_0,30000,11,15,13,17
```

**Lines 35-40** This puts the squashed top half into memory and then replaces the bottom half.

```
  50 WINDOW_0,0,11,32:CLW_0
  60 SHRINK_0,0,255,87,2,2,0,88
```

**Lines 50-60** These lines shrink the bottom half into the top left.

```
  70 GET_0,34000,5,0,6,16
  80 CLS
  90 PUT_0,32000,0,0,6,16:PUT_1,
34000,5,0,6,16
 100 PAPER 7: INK 0:WINDOW_0,0,2
3,64:CLW_3:GET_0,30000,0,0,11,16
```

**Lines 70-100** These lines put the whole shrunk picture back onto the screen, and then copies the picture into memory.

```
 110 INPUT "PLACE:";A
 120 LET X=(0 AND (A=1 OR A=3))+
(16 AND (A=2 OR A=4))
 130 LET Y=(0 AND (A=1 OR A=2))+
(11 AND (A=3 OR A=4))
 140 INPUT "NAME:";A$
 150 CLS
 160 PUT_0,30000,Y,X,11,16
```

**Lines 110-160** These lines position your miniaturised screen where you want it.

```
 170 SAVE *"M";1;A$SCREEN$
 180 PAUSE 0
 190 STOP
9000 @SHRINK_KX,KY,KW,KD,KB,KC,K
E,KF
```

**Lines 170-190** This section saves the screen and then stops.

```
9001 BROFF
9009 LET KKK=0
9010 FOR Q=1 TO KW STEP KB
9019 LET KKB=0
9020 FOR R=1 TO KD STEP KC
9030 IF POINT (KX+Q-1,KY+R-1)=1
THEN  PLOT KE+KKK,KF+KKB
9035 LET KKB=KKB+1
9040 NEXT R
9045 LET KKK=KKK+1
9050 NEXT Q
9051 BRON
9060 ENDPROC_SHRINK
```

**Lines 9000-9060** This is the Shrink routine.

## MINI MIXER

**This program asks for the names of the screen displays in the correct numerical order and then loads them in. You'll then be asked what you want to call the final screen and then it saves it. You're now free to load up the miniature display and copy it onto your printer.**

```
  10 REM Mixer v.1 1985
         By Keith Symonds
  20 :
  25 CLEAR 29999
  30 CLS
  35 SPRINT_10,80,6,1,"MIXER":SP
RINT_0,90,2,1,"By Keith Symonds"
:SPRINT_60,100,2,1, 5:6:85"
  40 INPUT "1st position:";A$
  50 INPUT "2nd position:";B$
  60 INPUT "3rd position:";C$
  70 INPUT "4th position:";D$
  80 CLS
  90 INPUT "Input cartridge and
press RETURN";E$
```

**Lines 10-90** This clears the picture area in memory and then asks the names of the four screen$.

```
 100 LOAD *"m";1;A$SCREEN$
 110 GET_0,30000,0,0,11,16
 120 LOAD *"m";1;B$SCREEN$
 130 GET_0,31585,0,16,11,16
 140 LOAD *"m";1;C$SCREEN$
 150 GET_0,33170,11,0,11,16
 160 LOAD *"m";1;D$SCREEN$
 170 GET_0,34755,11,16,11,16
 180 CLS
```

**Lines 100-180** This loads in your pictures from microdrive — take out the *"m"; 1; if you're using tape.

```
 190 INPUT "Name:";A$
 200 PUT_0,30000,0,0,11,16
 210 PUT_0,31585,0,16,11,16
 220 PUT_0,33170,11,0,11,16
 230 PUT_0,34755,11,16,11,16
 240 SAVE *"m";1;A$SCREEN$
 250 PAUSE 0
 260 STOP
```

**Lines 190-260** This block simply positions the four shrunk screens on the display and then saves the picture as a separate file.

# BUZZWORDS

***Brring-brring... Click.... Phweeeeee... Welcome to our whistlestop tour of a Bulletin Board with guide, Iolo Davidson. If you're after info, looking for a chat or you just want a nose around, remember it's only a phone call away.***

Aha! I'm through. Now I've just got to put the modem on line and replace the phone...

```
BRRING-BRRING...Click...PHWEEEEEE...
```

The bulletin board can tell what your Baud rate is by sensing your modem's carrier tone — this question is just to tell it whether you want the output scrolled line by line or paged like Prestel.

```
Are you using a PRESTEL Terminal (Y/N)
? n
```

Most bulletin boards need a posh computer with an eighty column screen and a 300 Baud modem but this one'll let you use a Prestel modem much as a Speccy with a VTX 5000. I'm not using my Speccy though, but a big computer with a 1200 Baud modem so I answer...

```
    **********************
    *                    *
    *  CBBS Bull Board   *
    *                    *
    *       Member       *
    *         of         *
    *     A.F.P.A.S.     *
    *                    *
    **********************
```

This is the association of system operators — just in case you were wondering. And no, I'm not sure what the letters stand for exactly!

CBBS is the name of the software that runs the BB on a CP/M disk computer. This is an amateur service run by an enthusiast. It's not only free but more fun than the ones you have to pay for. So be nice!

Meet your host. And before you ask, Sysop stands for System Operator. Obvious, now you know!

```
Sysop Edward Fuller-Bull

1200/75 BAUD V.23 or 300/300 BAUD V.21
Auto-Select.....
```

I could've skipped all this stuff by pressing 'k', but it does no harm to take a look. 300 Baud both ways is still the standard in the world of the big boy computers but the Prestel speeds of 1200 receive and 75 transmit are starting to make an impact. V.23 and V.21 are the designations for a set of transmission standards that everyone else calls Prestel and 300 Baud.

These bulletin boards are real and similar to the one we're on now — why don't you give 'em a try? Maybe one of them's near enough for local phone call rates.

```
Other CBBS's.....
------------------------------
CBBS South West     0392 53116
Boyd Hitchcock      24hrs.
------------------------------
CBBS Surrey         04862 25174
Mike Parker         24hrs.
------------------------------
CBBS London West    0895 420164
John Bolton         24hrs.
------------------------------
```

Now to log on — I think I'll use my real name for once. That way the bulletin board can find any messages sent to me.

```
What is your FIRST name? iolo
What is your LAST name? davidson

Logging name to disk..
```

The board echoes the password as 'x's just in case someone's looking over your shoulder. Course, you don't have to protect your identity with a password if you don't mind other people masquerading as you!

```
Password: your 1-5 char password?
? xxxx
You are caller 19313; next Msg =09448
693 active msgs.
```

Lots of the older messages have been deleted but this tells you that there are still 693 on the system — all just waiting for you to nose around and read them.

```
Prev. call 21/09/85 @ 21:13,
next Msg was 09425

Function: (? IF NOT KNOWN)?
? ?
```

'?' lets us see the full menu.

```
Main Commands....

<A>mend Password       <B>ulletins
<C>ase upper/Lower     <D>uplex full/half
```

```
Anyone with a PET who wants to swap software?

Msg 09434 on 23/09/85 from EDDY HOPEFUL
to GIRLS   re: HELLO
```

If you're wondering why some messages are all in capitals, remember that some computers don't have lower case letters.

```
ANY GIRLS ON THIS BOARD WANT TO SAY HELLO TO
A GUY WHO HAS FAILED HIS A LEVELS TO CHEER
HIM UP?  I'M WRITING THIS FOR MY BROTHER.

No Msg 09435
```

There used to be a message here but it was erased with the ·K·ill option. And that can only be done by the person the message was addressed to or the person who wrote it.

```
Msg 09436 on 23/09/85 from KEVIN KEY
to ALL   re: DWARF SAGA

Have stolen the key from the sleeping guard
but can't find any keyholes. Also can't get
past dragon in Holborn Viaduct. Clues please?

Msg 09437 on 23/09/85 from LESLEY GAMMON
to BRUCE KING   re: I'LL TALK TO YOU!

OK, SO WHAT DO YOU THINK OF ASTON VILLA'S
CHANCES THIS YEAR?

Msg 09438 on 23/09/85 from SYSOP
to FRED NEWCHUM   re: HELP

Try the <H>elp function to learn about CBBS.

Msg 09439 on 23/09/85 from SYSOP
to BEA HOLDEN   re: LOST CHARACTERS

Try doing without the Specnet
software and answer yes to the
Prestel question at Logon.
The text will then page instead
of scrolling.  It's a bit untidy
but you don't lose characters.
```

So, Bea's got her answer. And the clever ol' Sysop writes his reply in 32 columns so readers with narrow screens can read it. A nice touch.

```
Msg 09440 on 23/09/85 from HORST BORG
to ALL   re: GREETINGS

Hello from Sweden to all British BB users.
I am Spectrum owner in Goteborg using
VTX5000.  Yes, we have them too!
```

If you didn't manage to get abroad on your hols, how about calling up a foreign BB? That's if you can stand the phone bills, of course!

```
Msg 09441 on 24/09/85 from WAYNE SCOTT
to KEVIN KEY   re: HOLBORN VIADUCT

To get past the dragon, just park and hide in
the boot.  When you open the boot you will
have been towed away by the Black Watch. You
must have some gold with you or you'll
forfeit the horseless carriage.

Msg #: to retrieve (C/R when done)?
? +
```

The bulletin board finally pauses for more instructions from you. Put the plus in for more messages. The "+" makes the bulletin board keep printing following messages without having to wait for further instructions.

```
Msg 09442 on 24/09/85 from WEBB OFFSET
to ALL   re: SCREEN DUMP

Anyone have the Spectrum screen dump software
for Epson printer?  It was in "Your Spectrum"
number 4, but I don't want to type it all in
myself if someone already has it on tape.
```

menu.

```
<A>mend Password          <B>ulletins
<C>ase upper/Lower        <D>uplex full/half
```

…waiting for you to nose around and read them.

Use the ‹A›mend function to give yourself a password for next time — that way you'll stop the sneaks from reading your private messages or leaving moronic messages with your name as sender.

Some of these functions set up the bulletin board to suit your terminal and some have their own menus. We'll just use ‹R›etrieve to have a butchers at the message section.

```
<E>nter message           <G>OODBYE
<H>elp                    <K>ill message
<M>odem UP/Download       <N>ulls How many?
<O>ne line summary        <P>rompt bell
<Q>uick summary           <R>etrieve message
<S>ummaries msgs          <T>ime on system
<U>sers flags             <V>ideo Backspace
<W>elcome                 <X>pert mode on/off

Function: (? IF NOT KNOWN)
? r;*;+
```

The ‹H›elp file is a good place to get lost! Still, there's a lot of info available though. Just enter ‹H› at the Function:? prompt and you can then get help with any problem by just typing the name of the subject. For instance, enter "find" and you'll get help with finding messages.

This lets me read everything since my last visit. "r" is Retrieve, "*" for the last message number and "+" to keep reading. Use semi-colons to separate commands. Terse, ain't it?

```
Msg 09425 on 21/09/85 from TONY BACKUP
to ALL   re: HIGH SPEED BB'S

I have an Osborne computer and a WS2000
modem, but can only get them to work at 300
BAUD.  What do I have to do to use the 1200
BAUD option on fast bulletin boards like
this one?  Can anyone help?
```

Here's the first message that's been put up since my last time on. It's not for me but then again it's not marked private either.

```
Msg 09426 on 21/09/85 from LESLEY GAMMON
to ALL   re: ASTON VILLA

ANY ASTON VILLA SUPPORTERS ON THIS BOARD?
PLEASE LEAVE A MESSAGE.
```

You'll soon get over the shock that not everyone out there's got a Speccy — and a lot of the time you won't have a clue what they're going on about.

```
Msg 09427 is PRIVATE.
```

Huh, the spoilsport has marked this message private so only the person named can read it. Shame.

```
Msg 09428 on 21/09/85 from MAD GEORGE
to MAD GEORGE   re: HELLO

Hello old buddy- Give us a ring when they
let you out.
```

Hi, George. Long time no see. Both of you!

```
Msg 09429 on 21/09/85 from FRED NEWCHUM
to ALL   re: HELP

HELP-1ST TIME USER-HAVEN'T A CLUE-
```

Well, he's not doing too badly. At least he's managed to ‹E›nter a message. If you want to have a go, just enter 'e' at the Function:? prompt then follow the instructions.

```
Msg 09430 on 22/09/85 from BEA HOLDEN
to ALL   re: LOST CHARACTERS

Keep losing characters from
messages.  What is going
wrong?  Have Spectrum, VTX5000,
and Specnet software.
```

Poor Bea — the 32 column screen forces scrolling in the middle of the longer lines so characters are missed during the scroll. The Sysop may help.

Specnet software is the utility that Steve Adams wrote for using the VTX5000 modem on suitable BBs.

```
Msg 09431 on 22/09/85 from ED HACKFORTH
to TONY BACKUP   re: REPLY TO Msg 09425

I am afraid that your Osborne won't handle
both the BAUD rates that you need (1200
receive and 75 send) from its single RS232
port.  The WS2000 modem only supplies the
proper tones, not the actual BAUD rates.
Sorry, looks like you're stuck with 300.
```

Cor, this is the kind of thing so-called 'real' computer users think BBs are all about. Fear not, Speccy pilots are flooding in all the time!

```
Msg 09432 on 22/09/85 from BRUCE KING
to ALL   re: WHY HAS NO ONE TALKED TO ME?

This is my fourth message on this board and
no one has replied to any of them.  I thought
computer freaks were supposed to be friendly!

Msg 09433 on 22/09/85 from EDWIN OLDACRES
to ALL   re: PET
```

```
myself if someone already has it on tape.

Msg 09443 on 24/09/85 from BUSTER BOARDS
to ALL   re: 300 BAUD ON VTX5000

Someone told me you can get a VTX5000 to work
at 300 BAUD.  Does anybody know the details?
There is supposed to be information about
this on the North Birmingham BB, but I can't
get on that one as it is 300 BAUD only and I
have only got a VTX5000.
```

This may be a myth, of course. I've never heard anyone actually claim to have done it, only that they heard someone else has done it.

```
Msg 09444 on 24/09/85 from BRIAN FERGUS
to LESLEY GAMMON   re: REPLY TO ASTON VILLA

Afraid not.  Try the ACORN USER DATABASE.
They have a counselling service for people
with football problems.

Msg 09445 on 24/09/85 from ZIGGY STARDUST
to ALL   re: ANY PSS NUMBERS PLEASE.

Anyone got any numbers/passwords/etc that
they are prepared to share?  Will trade info
on getting into MUD.
```

Hmmm, this is either a naughty hacker or a fraud squad cop looking for promotion. I'd steer well clear if I were you.

```
Msg 09446 on 24/09/85 from NAN TUCKETT
to EDWIN OLDACRES   re: PET (REPLY TO 9433)

Well I asked my pet canary if he has any
software to swap, but he thinks you're just
being cheep.

Msg 09447 on 24/09/85 from RON MELDRUM
to ALL   re: SPECTRUM BB

Spectrum Bulletin Board
NAME....KEY-BOARD
TEL.....0908-668398
SYSOP...Ron M
BAUD....1200 HALF DUPLEX
TIMES...Mon,Wed,Fri,Sat &Sun
...........8pm till 11.30pm
Saturdays also 2pm till 4pm
This board is one of a number of boards being
run on a Spectrum/Microdrive set-up so don't
expect the rapid response like you get on
Disk based boards. At the moment the board
is Spectrum only requiring SPECIAL software
written by Diamond Design and available from
Micronet page 800112191.
```

And now, finally, for a real message — the only one in the article. If you fancy having a go at this board, do remember to keep within the allotted times.

It's not that long ago that this would have been considered totally impossible. Even now I reckon it's pretty heroic to attempt such a thing — but then we Speccy owners are notorious adventurers!

```
Past hi Msg #
Msg #: to retrieve (C/R when done)?
?
```

Right, there are no more new messages. Just press ENTER or RETURN to leave the ‹R›etrieve function.

```
Function: (? IF NOT KNOWN)?
? g
```

And now, we face the final curtain — press G for ‹G›oodbye and say your farewells.

```
Comments Y/N: Want to leave any comments or
suggestions?    To get back to CBBS
? n
```

But before we go, we're given the option of leaving a message for the Sysop or changing our minds about logging off. Press N for no — logical really.

```
From ED, Thanks for calling, IOLO
```

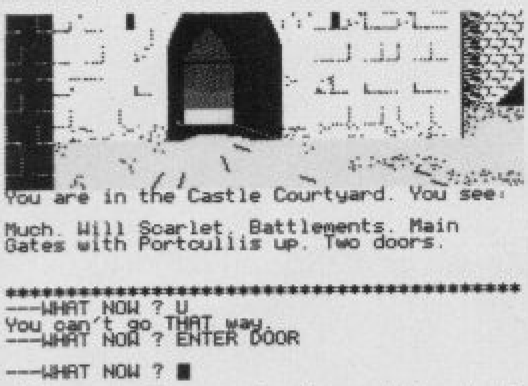
That's nice. Our Sysop says goodbye.

```
++End of connection++
++Please HANG-UP!!!++
```

And that's it. But if you've got a VTX5000 then you can ring up a bulletin board right now — try CBBS South West on (0392) 53116.

*It's time for an adventure or two! Let's see what Steve Cooke has found for you to explore...*

**ROBIN OF SHERWOOD**
**Adventure International £9.95**

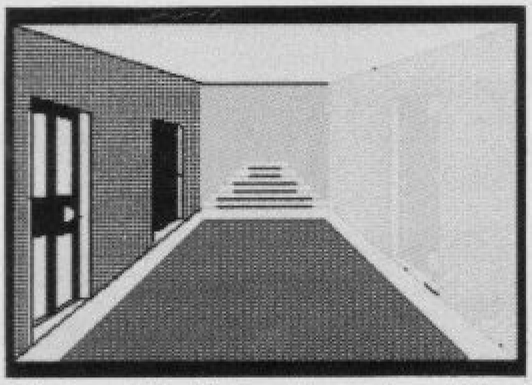



Adventure International certainly rake in those big titles to turn into Spectrum adventure hits! Following in the footsteps of *Gremlins* is *Robin of Sherwood*. You could say it was like robbing the big screen to give to the small!

Anyway, how do the adventures of Robin the wonderboy live up to our expectations? You'll find great graphics, with a different one for every location. You won't be at all disappointed by the program either, though I reckon the game could be just a *teeny* bit friendlier. It kept ignoring my commands and getting the program to accept my phrasing was harder than solving the puzzles.

This game is a winner despite the niggly bits. Be careful when leaving the castle near the start. If you manage to make your escape from the Goblin's Dungeon, then you should make it out of the castle...

**THE SECRETS OF ST. BRIDES**
**St Brides School £6.95**



Oh, I say girls, this is a wizard wheeze! Even the boys might fancy a bash at this one.

If the thought of Quilled games sends your knees a quiver, and I admit there've been some shockers, then think again. *St. Brides* has quite a whacky atmosphere to it, and if you can forgive the occasional *Quill*-like quirk — like waiting an age before replying to your commands, you should find these antics give you quite a kick.

As Trixie Trinian you'll find yourself in the heart of *St. Brides* School where all the young school girls seem to have the idea that it's not 1985 but about fifty years back in time! Even worse, those mysterious mistresses seem to be dab hands at hypnosis and ... (like a good school goer I mustn't give the secrets of St. Brides away, must I?) Pssst! I mustn't say a whisper about that amulet either or I'll get a jolly good ticking off... it's all jolly hockeysticks what!

# GIVE US A CLUE...

Just when we were thinking that solving *Sherlock* was sheer luck, you've flooded us with hints and tips on the game! **Paul Ridley** and husband-and-wife team **John** and **Patricia Black** sent in *far* too many clues to print, but here's a few for those of you still trying to work out who this Watson fella is. To get people to follow you, you'll need to ask them *three* times per move. A bit long winded, but it works! Paul suggests trying it out on the cabbie! And while on the subject of the cabbie — don't pay him. (*Now that's a wise investment. Ed*) Why not ask Daphne about Tricia Fender, you'll get another address for your collection. Finally, Paul recommends that you should *always* take the lamp.

A fair number of you are still having problems killing off Smaug (the dragon) in *The Hobbit*. Well, **Helgi Hafthorsson** from Iceland (how did you guess?) has settled this problem once and for all with his tip. Go to the village of Lake Town and tell the Bard to go North. From here you must follow him up to the mountain until you see the dragon. You're far too weak to kill the dragon yourself, so you must ask the Bard to shoot it for you. Now that solution should keep **Richard Webber** from Chadwell-St.-Mary happy. It's exactly what he was asking for!

**Peter Bates,** who calls himself 'the wally from Leeds,' and **Freddie Still** from London both sent in some useful tips for *Valkyrie 17* freaks. Behind the dustbins in the Schloss, apparently, you'll find an aqualung which you'd be well advised to take. Also, give the butcher the lead-box and hide Reichmuller's body in the shower. (Stranger things have been known to happen in *Valkyrie*, so don't be surprised by those clues!)

Here's *another* first for *YS* — the first person to complete Level 9's *Red Moon*. **Graeme Smith** finished the epic only one week after its release! Now that *must* be a record for one of Level 9's adventures! Graeme also kindly sent in some tips for those of you who aren't quite as speedy with the puzzles. To get the brooch you'll need to read the book and find the aviator's sarcophagus. (*Pardon? Ed*) When you want to enter the metal room, Graeme suggests using a little rubber insulation. When you've killed the cloaked statue in the dark junction, you'll find that his ghost will be wandering around! To avoid being killed by this, type *Kill Statue* and then go back the way you came. When you return to where the ghost was, it should have vanished! (*It's magic! Ed*) Finally, Graeme says that the purple potion restores your hit points to 50, the shirt makes your armour less painful and the tracers allow you to carry more, so what more do you want?

Right, that's your lot for this month — but if you're stuck in an adventure, look to the masters below. If there ain't one there that can help you, then write in and we'll publish your problem. If you're a *brilliant* adventurer, on the other hand, write in anyway and tell us all about how to do it. Just stick your stuff down on a piece of paper and send it in to Give Us A Clue, *Your Spectrum*, 14 Rathbone Place, London W1P 1DE. Just think of all that talent out there waiting to be tapped!

**KINGS OF THE CASTLE**

***Red Moon***
Graeme Smith, 22 Woodvale Avenue, Giffock, Glasgow.

***The Hobbit***
Helgi Hafthorsson, Blondvbakki 11, Reikjavik, Iceland 109.

***Valkyrie 17, Planet Of Death***
Peter Bates, 21 Bedford Gardens, Tinshill, Leeds 16.

***Valkyrie 17***
Freddie Still, 2 School House, Wellclose Square, London E1 8HY

***Eureka, The Hobbit, The Hulk, Spiderman, Inca's Curse, Ship Of Doom, Mountains Of Ket, Temple Of Vran, Final Mission, Light Globe, The Templars' Secret, Safari.*** Vasco Novais de Oliveira, Rua João Luis de Moura No 52, 2750-Cascais, Portugal.

***Valhalla, Black Crystal, LOM, Doomdark's Revenge, Hobbit, Sherlock*** Iain Gibson, 27 Cruftparks Road, Hardgate, Clydebank G81 6NN.

***The Hobbit***
Toby Blake, 25 Holm Park, Inverness, Scotland IV2 4XT.

***Sherlock***
Paul Ridley, 34 London Road, Daventry, Northants NN11 4BZ.

***The Hobbit, Urban Upstart, Quest For The Holy Grail***
Philip Kevin Bugler, 209 Trealaw Rd, Trealaw, Rhonda, Mid Glamorgan, S. Wales CF40 2NT.

**DOWN IN THE DUNGEON**

***Erik The Viking*** — 'How do I save a game in progress?' Tom Clark, 75 Brailsford Road, Fallowfield, Manchester M14 6PX.

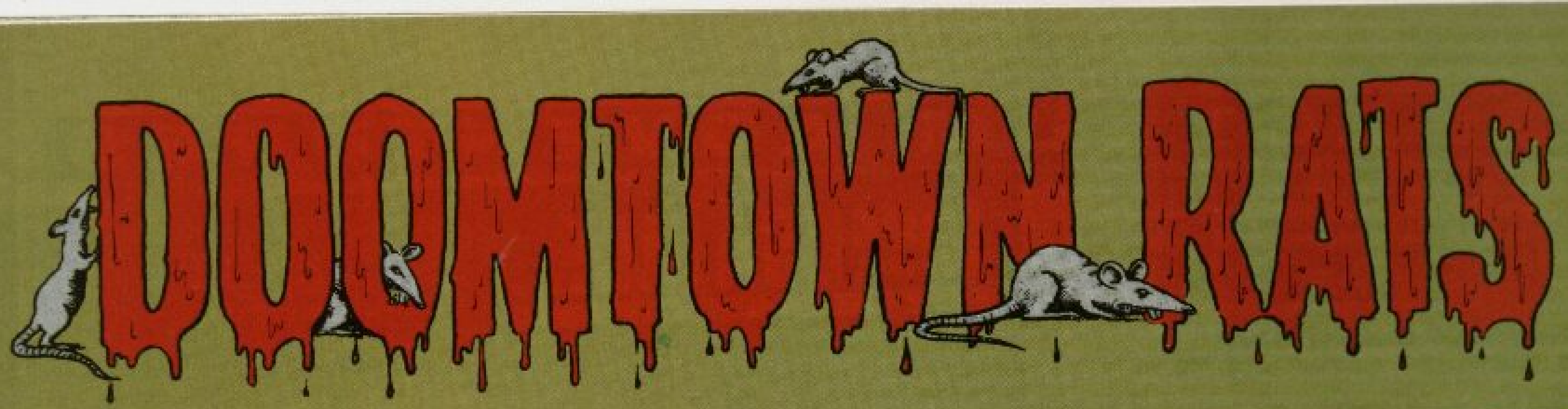
***Dungeon Adventure*** — 'How do I escape the central dungeon exit chamber without being killed by weights, and what's the significance of the pedestals and collars?' M.C. Lumley-Holmes, 21 Wheatley Drive, Haxby, York YO3 8WA.

***Sherlock*** — 'How do you break the codes on the letters found in Basil's house in the fire and rubbish bin?' Michael Meechan, 7 Pernieside Ads, Edinburgh EH17 7HN.

***Kentilla*** — 'When I get the castle and Zelda has taken me across, I get stuck. Please help!' Lynsey Strachan, 17 Bishop Foraes Crescent, Blackburn, Kinellar, Scotland AB5 0S.

***Sherlock*** — 'How do I stop Lestrade arresting Major Ffoulkes?' David Vivian Jnr., 4 Parc-an-Challow, Penryn, Cornwall TR10 8QS.

***Ship Of Doom*** — 'I've got the Micro Battery and the Sonic Screwdriver, but now I'm stuck. Please help!' Alan Figgins, 27 Menzies Close, Lordshill, Southampton SO18FX.

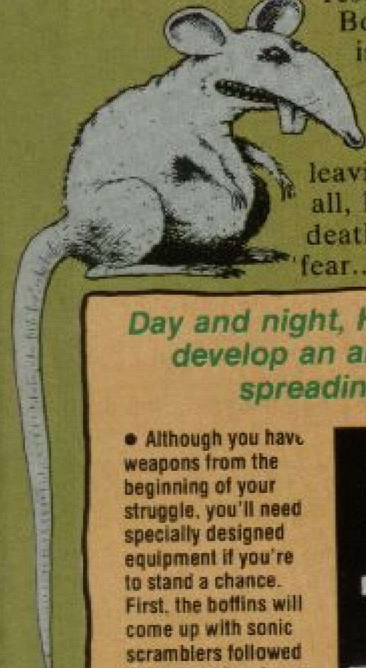


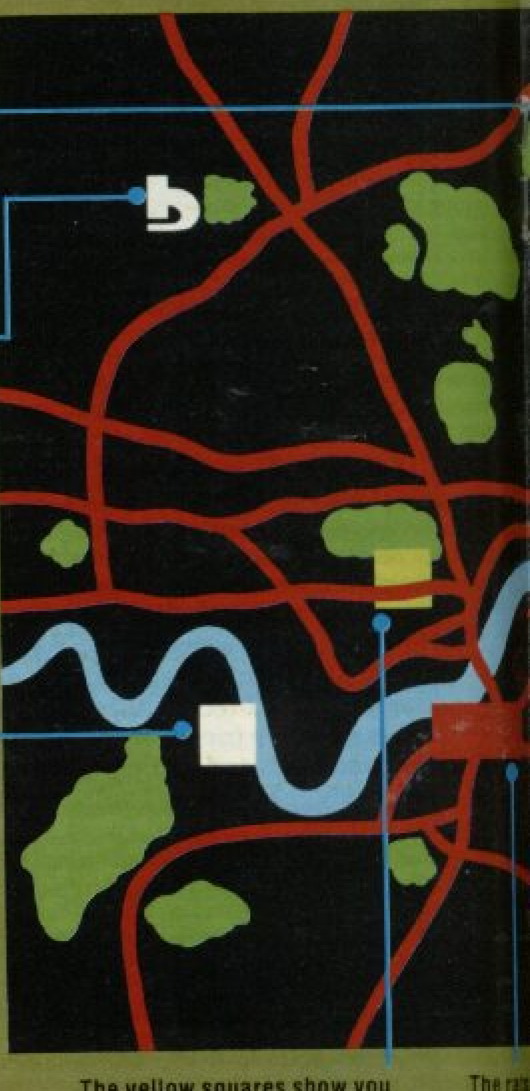
# DOOMTOWN RATS

*They w... And the... of them... over pe... Spectr... release... YS Pie... have jo...*

Once again, London is at war. But this time the enemy is already within its walls... waiting, waiting, for just the right moment. And then the black army emerged from the dark recesses of the sewers to do battle. First, they were like shadows unsettling a sunny day — black and swift but seldom seen. Soon though, they were everywhere — rats, giant rats driven on in a frenzy by an obscene craving for human flesh...

It's your task to staunch their crazed bloodlust — to stop the horrific slaughter and mindless massacres. The gravity of the situation calls for a three pronged attack. Howard is in charge of Research and Development working round the clock in a bid to create a weapon that'll get the rats on the run. To Foskins falls the unenviable task of deciding where the meagre resources he's been allocated should be deployed. Both of them are generals in the war, initially isolated in offices and distanced from the battlefields. Harris, however, is in the thick of it — he has come face to face with the monsters, seen how swiftly they can devour a human body leaving only bloodstains and polished bones. Above all, he knows what it is to face death and feel fear...





**Protect Harris's flat at all costs — the rats seem to home in on it sensing a deadly enemy within. If you let them overrun the place, it's curtains for you!**

**Here at the Research and Development Centre, the vital work to find a weapon that'll eradicate the rats is going on. You can do your bit to help the boffins by protecting the establishment from the rodents.**

**The rats are on the rampage all over the city. Keep track of them by constantly calling up the white squares for reports on sightings — and take note of what you're told so you can assess how dangerous the situation is on each square.**

**The yellow squares show you where you've deployed your troops. Move the cursor over them when you want to inspect their strengths.**

**The rats... claw wi... squares... colour...**

### *Day and night, Howard and his team toiled in their bid to develop an antidote to the rats. But the poison was spreading — and time was running out . . .*

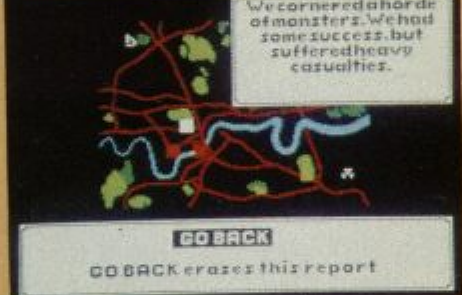
- Although you have weapons from the beginning of your struggle, you'll need specially designed equipment if you're to stand a chance. First, the boffins will come up with sonic scramblers followed by ultrasonic rat detectors, stun prods and anti-rattus gas.



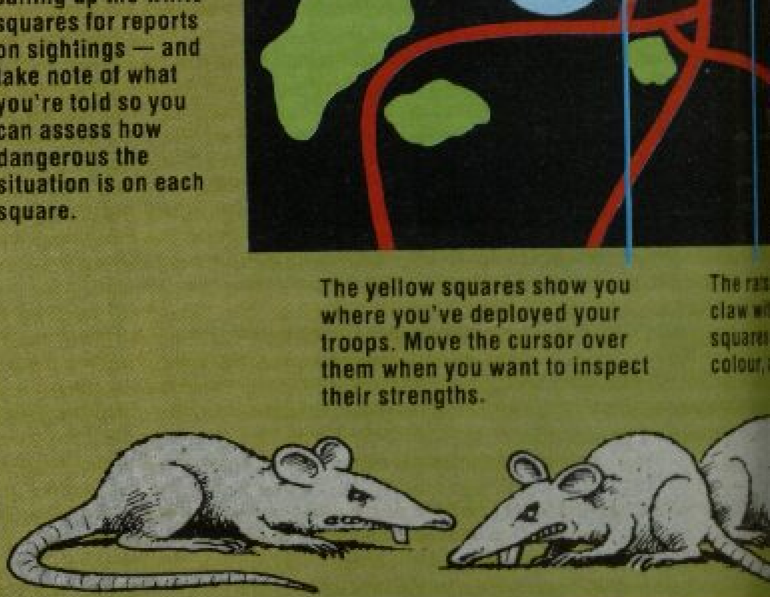

- As the battle develops, the backrooms boys at the R&D centre will send you newsflashes at the top of the screen. Read them to keep abreast of all the latest research.

- Your research and development resources are limited. The temptation, of course, is to slap the whole shebang onto research into defence and offence. *Don't!* Without background knowledge on where the rats are coming from, you'll never be able to develop the weapons to wipe them out.

- Try out all the different combinations of deploying your scientific resources until you come up with the one that yields the best results. For us, one man an' his microscope digging away at the origin of the species, another researching their nature and the rest employed on weapons development has proved successful in the field.

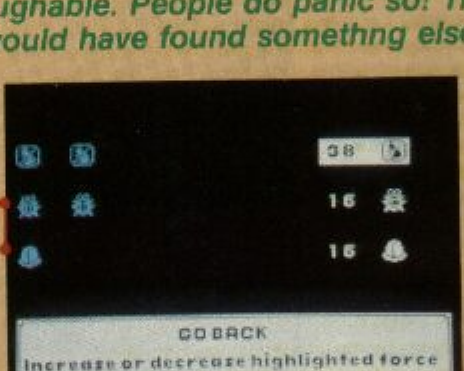



- You'll also receive reports from the areas where your troops are under attack. If you're told that casualties are light, take it that you're doing OK, and press on elsewhere. As soon as you're told of a massacre, move in the big boys to that area. Like now!



### *Foskins and the other bureaucrats weren't too worried at first. After all, how... idea was laughable. People do panic so! The pest control would come in a... would have found somethng else to sensationalise. It just goes t...*

As the true scale of the threat comes home to the politicians, you'll be given reinforcements — in the main, police and firemen. Now it may sound callous, but use the firemen at this stage as they're expendable.




- Don't spread your men too thinly. Far better to concentrate on key areas and clobber the critters as they come out.

- Here's your standard issue rat-killing equipment. It's not amazingly effective but you've got to make do until the R&D boys come up with the goods.

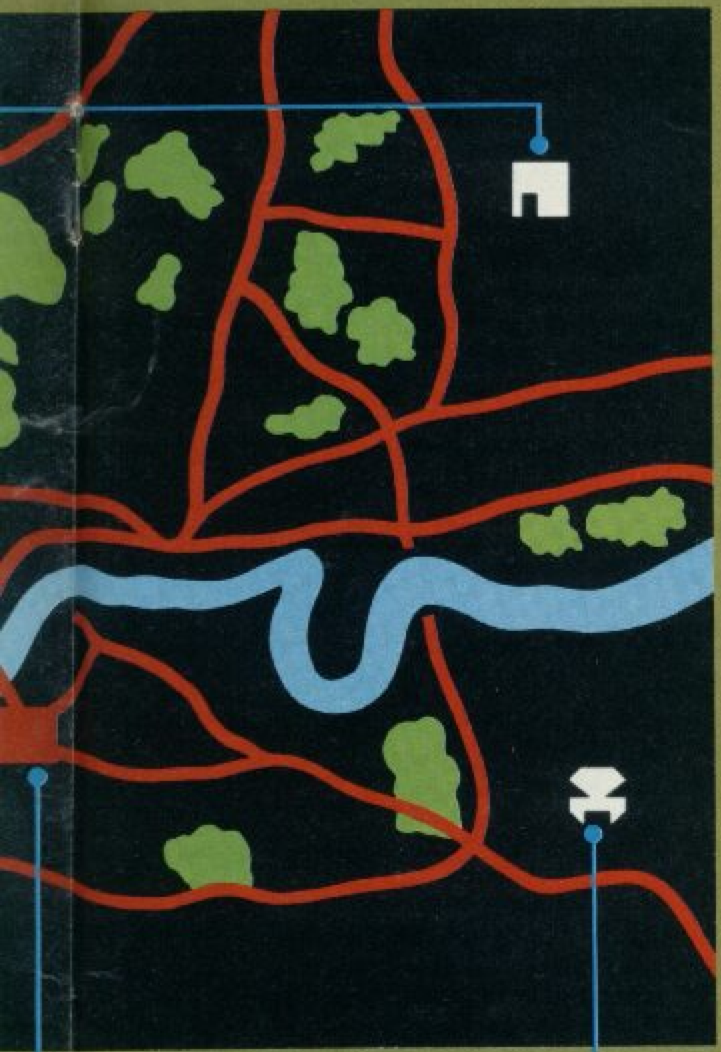


- Just like the movies, the cavalry arrives at the last minute — or in this case the army though they haven't turned up yet. Not that they're any guarantee of victory — these rats are more deadly than any Apache — but they'll give you the extra resources to rally against the enemy.

- In the early stages, you'll have very limited numbers of troops. Best to use them in the centre of the city where the rats first crawl out of the sewers, remembering to keep some in reserve so you can stomp on any stray sightings in the outskirts.

At the start, you'l... of police, firemen... police should form... force — send them... The professional r... hand, are more us... situations and for... targets like Harris's...

hey were big (well, ish!). They were black. nd they were ugly. Soon there were swarms f them. They teemed into the shops and took ver people's homes. They were The pectrums. Now Hodder and Stoughton has eleased a new game designed to tame them. S Pied Pipers, Peter Shaw and Penny Page, ave joined The Rats race...



e rats are fighting tooth and aw with your troops on the red uares – the most appropriate lour, after all.

This is General Head Quarters manned by Foskins and the other Whitehall mandarins. Since we've payed our taxes to put 'em in jobs, it's an idea to make sure they're protected.



how could a few rats take over London — the in and it'd be all over in a week. The papers es to show how wrong you can be!




This sonic scrambler is the first of the specially designed weapons to leave the labs but only the Rat-Kill exterminators are allowed to operate them. Get them to the battle-grounds as soon as possible — they're doing no good tucked away in the armoury.

u'll have a team consisting en and rat-killers. The orm your main attacking hem in with guns a blazin'. al ratcatchers, on the other e useful in domestic for defending strategic rris's flat.

• Now you might not think it's not that worthwhile saving somewhere like, er, Hounslow but once the rats get a foothold in the outskirts, you're in big trouble. It's only a matter of time before they're out of the metropolis terrorising England's green and peasants! And that means the game's up for you.

*All over the city, ordinary men and women were having their lives completely changed by chance encounters with the black menace. And sometimes those lives were brought to a bloody end . . .*

At intervals throughout the game, you'll find yourself in the shoes of someone who's about to come face to face with the rats. It's your job to make sure that that someone doesn't become another government statistic with a closed file labelled Deceased.

**You are Harris, on a mission to capture a rat.**
**You are in the Rat-Kill van.**
**Ferris is with you, carrying a wire cage.**
**Objects present:**
**a lit torch**
***Take torch***

*I'm only here for the ride — this one's strictly for the professionals. No sir, Ferris calls the tune — he's being paid to be the Pied Piper!*

**Ferris gets out saying, "Come on mate, scared of a load of overgrown mice?"**
***Leave van***
**You are on the waste-ground near the van.**
**Ferris goes into the graveyard whispering, "Wait here".**
***Go to graveyard***

*Eeyah, this graveyard is really spooky. I ain't afraid of no ghost — it's the rats that give me the creeps.*

**You are in the graveyard.**
**One of the tombs has cracked open.**
**Ferris walks towards the tomb and bends to look inside.**

It's a bit of a shame if the various people you're looking after become victims of the rats but it's not the end of the world. If you lose Harris, however, it is — or at least the end of the game!

**A huge rat springs at him. Ferris screams and falls back.**
**Dropping the cage he claws at the wriggling creature.**
**Horrified, you watch as he is dragged into the tomb.**
***Take cage.***
***Enter tomb.***

*Oh my God... Ferris... no, the horror, the horror... he's dead... mustn't look, mustn't be sick... just take the cage...*

**You are in the tomb.**
**A bloody trail leads to the tunnel in the back wall.**
***Enter tunnel.***
**You are in the tunnel.**
**Objects present:**
**the van keys**
**a rat gnawing on a piece of Ferris' body**
**A single monster rat sits gnawing Ferris' body**
**A single monster rats sits gnawing Ferris' chest.**
**Small boons crack under your feet.**
***Take keys***
***Grab rat***

Often your first reaction in situations like this is to turn tail and run for it. Better to keep your nerve and press on — remember that there's only one course of action that'll see you safely through and it's not always the most obvious or pleasant one.

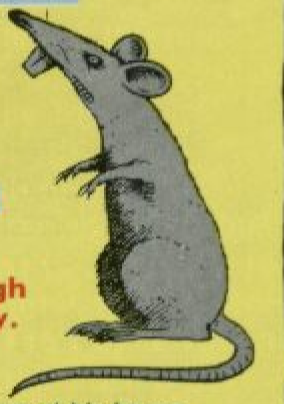
If R&D are to come up with the weapons you need, then they're going to need all the information they can lay their hands on — only this time, you've got to lay your hands on a big black rat first. Yeuch!

**You are holding the feeding monster but it will soon finish the piece of flesh.**
***Put rat in cage***
***Go back***
**You are in the tomb.**
***Go to graveyard***
**You are in the graveyard.**
***Go to van.***

*Aaargh... this monster's so strong... not sure if I can hold it... s'like wrestling the devil... get in there... one last... eergh... got'ya!*

**You are on the Rat-Kill van.**
***Close van***
***Start van***
**The engines start, you plough through the vermin to safety.**

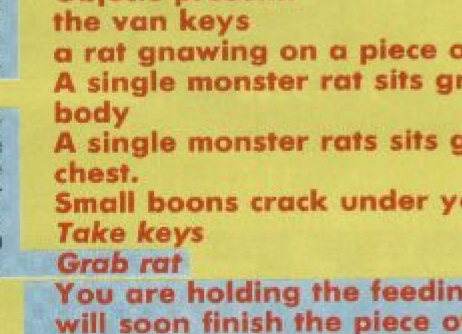
*I've got the keys, I've got the cage an' I've got the rat. Looks like there's only one thing left to get — the hell out of here!*



## THE BLACK DEATH

*And then the black, writhing carpet engulfed him, knawing at his bones, ripping mouthfuls of hair from his scalp, gorging themselves on great gobbets of living flesh and gulping down the blood...*

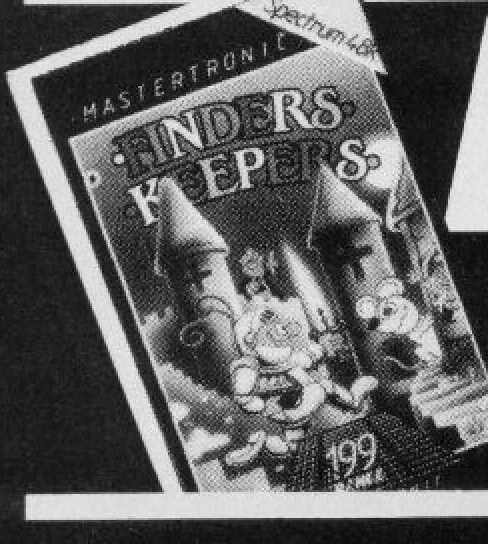
The game uses a unique method of instruction entry to save you having to type in your commands. You're given a menu of options at each location and when you choose one it branches out into a sub-menu.




This is the gruesome scene that faces you if you let the dirty rats get on top of you. Sometimes the rats spring from the screen and there's nothing you can do but thank God that it was all over in an instant. More terrifying are the rats gnawing through doors as you wait in vain for help to arrive. At least it gives you time to appreciate the way the text on screen is corrupted to simulate the scratching of the rats' claws. A nice touch that.

● Unless you're one of the three main characters, you can continue the game despite losing a life. But if you do survive, a message is automatically sent to the R&D Centre containing information that helps in the development of the superweapon.

# Mr. Software







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*(Original letters available for inspection.)*

# Mr. Software

**KELVIN HOUSE, TOTTERIDGE AVENUE, HIGH WYCOMBE, HP13 6XG. (0494) 450751**

Mr. Software

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# Gothic horror

***Fairlight* is a land of mystery and magic with a castle that holds as many secrets as Castle Rathbone. It's also the new game from The Edge — Simon Forman has come under its spell.**

Things haven't been too rosy recently in the Land of Fairlight — war, murder, plague, famine, You know the sort of thing! Well, now you've got the chance to do something about it. Imprisoned in the Castle Avars is the magician whose Book of Light can make the sun shine once more — and guess who the task of freeing him has fallen too? Got it in one, so you can stop sloping off. After all, you might miss out on the best arcade adventure of the year — maybe *the* game of the year!

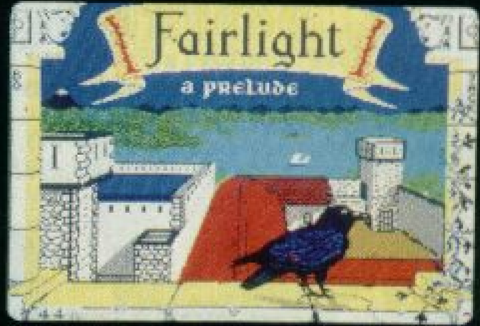
*Fairlight* is a true adventure, not just one in name. There are eighty-odd locations, a mystery to solve and hidden objects to uncover and use. But it all takes place in stunning 3D graphics. Here are caves and courtyard, dungeons and drawbridges, towers and secret rooms — all pieces of a jigsaw that'll fit together to form a perfect castle.

You'll soon suss out that the magician you've got to rescue is holed up in one of the towers. It's getting up there that's the problem — your path's blocked by a monk-like ghoul who will not budge. So, it's off round the castle, exploring all the rooms, finding keys to the locked doors, collecting crowns and books and bags of gold. But you're not the only one wandering within the walls — beware the soldiers, trolls, magic bubbles and monks, all of them out to do you a mischief.

The atmosphere of the medieval castle is captured by the programmer, Bo Jangeborg using his Worldmaker Technique. This has added an extra dimension of realism to the game that you won't have come across before. You'll find that objects weigh differently just like in real life. When you move an object, leave and then return to a room, it doesn't reset but stays just where you put it. And best of all you can pick up all the objects you find and use them in any of the other rooms.

Different from the Ultimate megagames, huh? *Alien 8* and *Knightlore* are more puzzle games — each room poses a problem that you've got to overcome. *Fairlight* is one big problem — but you'll have one helluva time trying to solve it!

## CASTLE COMPO




**Welcome to the loading screen for *Fairlight*. If you study it very closely it'll help you fill in the gaps in your own map. And have no illusions, you'll have to draw a map if you're to get anywhere in the game. Just to spur you on in those moments after midnight when you know there's only one more room to go, if only you could find the key, The Edge has come up with a wizard idea for a compo. So, here's the scam — the first ten *YS* readers to send in a complete map of *Fairlight* will receive free membership of the Edge Connection. You'll get a T-shirt, *Fairlight* poster and the offer of discounts off all future Edge games, including *Fairlight II*, the follow-up. And tucked away at the bottom of the jiffy bag will be a free copy of *The Artist*, the graphics package that got such a rave review in *YS* 15. And if you look at the title screen, you can see why — it was created using *The Artist*. Not surprising really, 'cos both programs were written by the same programmer, Bo Jangeborg!**

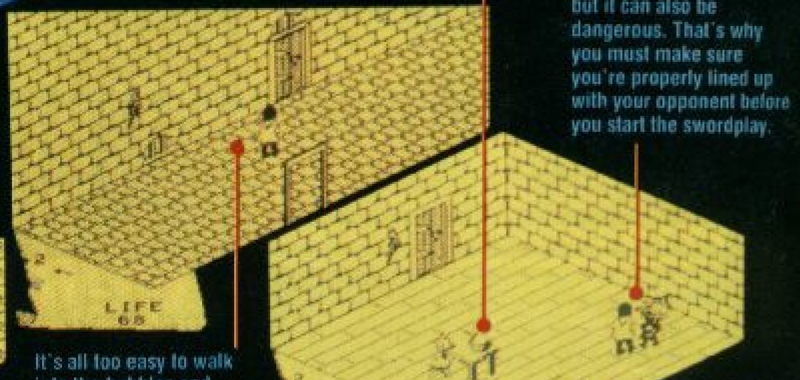
## cryptic clues



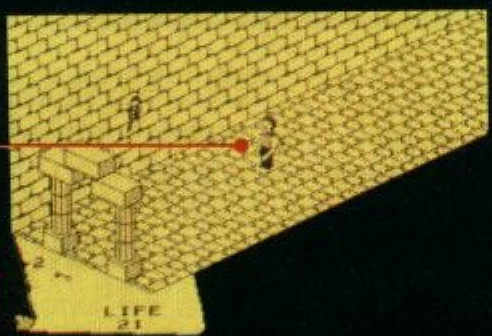
If you thought the soldiers were stoopid, just try the trolls. It's a doddle getting them to bash their heads (and other parts of their anatomy) up against brick walls ... or tables ... or ... Just make sure you put an object between you and the troll and watch him get stuck!

Isn't that? Nah, it can't be. Surely not. Well, it certainly *looks* like our ol' friend Tony 'Slim' Samuels! Rumours that the trolls were based on him must be unfounded. *Mustn't* they?

You start out with your life force at 99 but the land of fairlight is a dangerous place to expect it to drop fast. Eating the bread and chicken you find, or drinking from the jugs is one way of getting your strength back — but they're only worth ten points each.

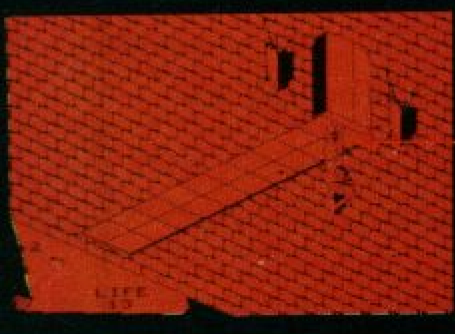


Fighting can be great fun but it can also be dangerous. That's why you must make sure you're properly lined up with your opponent before you start the swordplay.



Your big physical advantage over all the other nasties in the castle is that you can jump and they can't. So, you can duck out of their way by leaping onto tables and stools and doing an Errol Flynn from up there.

It's all too easy to walk into the bubbles and whirlwinds — as soon as you enter a room wait a while and watch to see the patterns they follow. That way you can safely work your way round them.



Old soldiers never die, they simply fade away into their helmets — so, don't try treading on them or using them to jump on 'cos they're still as dangerous as ever. And if you leave a room and return to it, up pops your adversary as though nothing had happened.

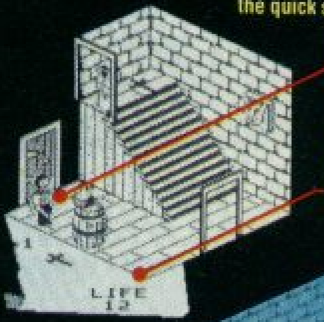
Feeling suicidal? Try crossing one of the two drawbridges. The monks who stand guard will have you over the edge and into the chasm before you have time to say Aaaargh! And that means game over for you. The only easy way to stop their tricks is to use an hourglass.

# tower block

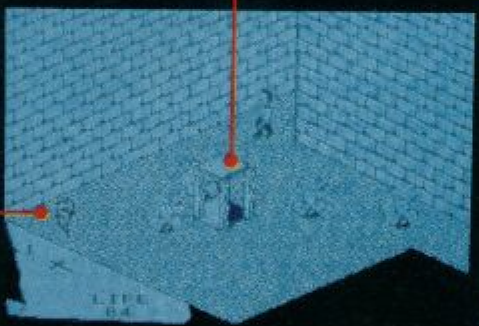
Remember the well in *JSWII*? Well, there's one here as well. And this one's just as nasty — if not as wet! The bad news is the bubble at the bottom waiting to blow you away — and the worse news is there's no way out once you've burst it. Your only hope is to use the scroll that'll magically transport you to the courtyard. *Now* kick yourself for leaving it behind!

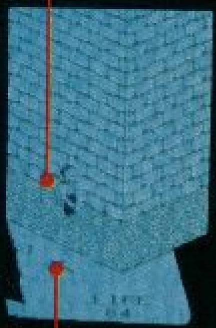
You're not built like Geoff Capes, y'know! There's a limit to the number of objects you can carry — and that's five. Course, if one of the objects happens to be a barrel or a bag of gold, you'll find it impossible to pick up much else because of the extra weight.

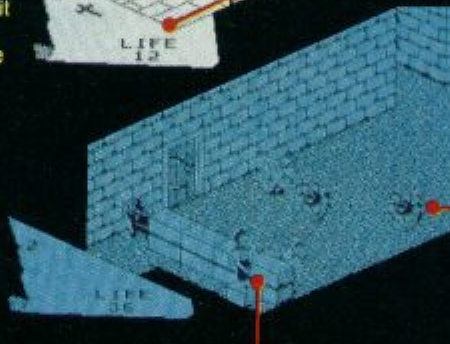
You can only pick up objects that are directly in front of you. Line yourself up and then it's knees bend for the quick snatch.



If your life force is really on its last knockings, there's only one way of bringing it back to full strength — by drinking the liquid in the small stoppered bottles. Use them wisely, though — we've only tracked down a couple in the whole castle.







Never leave objects you've collected in a room with a whirlwind. All it takes is one touch and whoosh, the object vanishes.

The day of the triffids has arrived. The killer daffodils in the courtyard aren't just decorative but deadly. Tread very gingerly around them — if they snap out, you can expect a great deal of damage.

You'll find most of the keys you need close to the doors they unlock — but it's not always the case. The key at the top of the tower unlocks a door on the far side of the castle.

Sometimes you'll find it impossible to drop an object just where you want it 'cos the way's blocked. Tackle the problem by dumping your chosen object as close to where you need it then a quick shove'll put it into position.

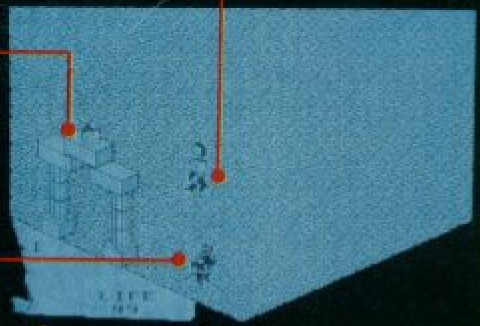


There has to be a limit to the number of soldiers you can squeeze into one room. So far, we've managed eight with no difficulty just by killing them and then transporting their helmets to another room. Let us know if you beat that.

Having trouble with one of the guards? Here's a tip that works if the room's got two exits. Enter and draw him towards you — just as he's about to do you a nasty with his spear, turn tail and leg it out of there. Now it's just a question of nipping round to the other entrance and dashing in while he's occupied on the far side of the room.

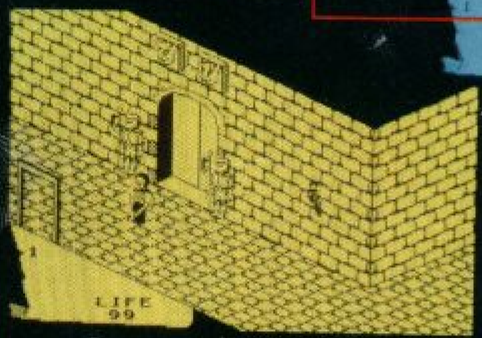
Some objects are there for all the world to see — but they're well out of your reach. Don't give up even if you can't get your mitts on them by jumping. Start stacking barrels and then use the stools to leap on top of those.

One very nice touch is that you can pick up a soldier's helmet and transport it to another room where he can cause less bother. There's no way you're going to be able to search a room fully with a member of the military dogging your every step.

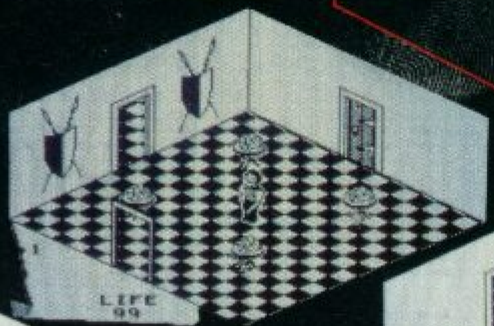


# hiding places

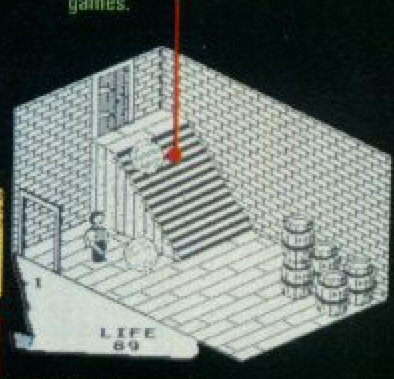
Some objects are sneakily tucked away where you can't bend down and reach 'em, all is not lost. Slide the lighter objects through and they'll shove what you're after in front of them.

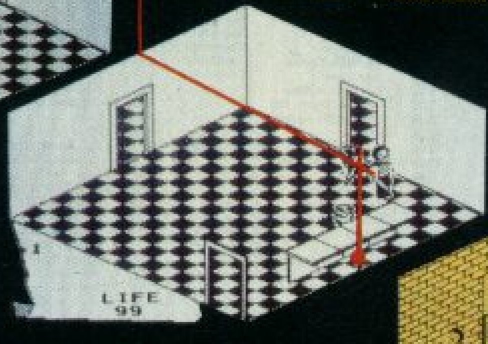


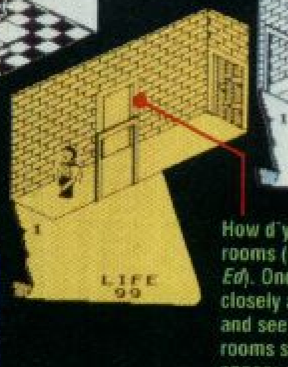
The only safe way of walking round a room with a monk in, is to use an hour glass. Immediately, time stands still and you can search to your heart's content — but make sure you don't leave the room 'cos as soon as you return the clock's started again.



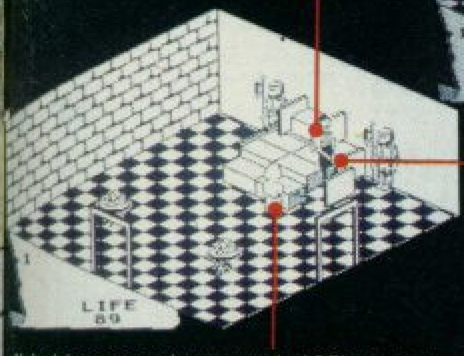
Bubbles are the ultimate deterrent — or at least they're the only objects which reset to their original positions when you leave a room. Yep, just like in the Ultimate games.



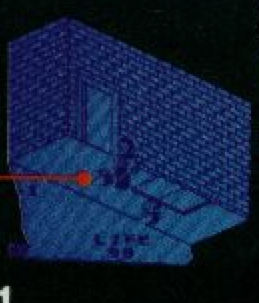




Don't expect to just walk into a room and see all its secrets straight off. Some like the cross concealed beneath the throne will take a fair bit of searching for.



Nobody's gonna push you around, eh? That's what you think! The soldiers and trolls may be a pushover but the monks have the strength of two — and you can't even make a stab at killing them. As soon as you come into contact with them, you'll be lucky to escape with your life.



Money, money, money, that's all they ever think about these soldiers — mercenary devils! If you want to take one of the guards off your tail, try dropping a bag of gold. It doesn't always work but in most cases it should buy you some time.

How d'you find the secret rooms (*Isn't that a secret? Ed*). One way is to look closely at the little screen and see if there are any rooms shown that don't appear on your map. Now check 'em out by walking into walls. You'll soon be rewarded by finding the hidden doors.

# HACKER'S GUIDE

## *Two games in the three dimensions —* Fairlight *and* Nightshade. *Dave Nicholls ventures into the code.*

Hmmm, *Fairlight* and *Nightshade*, day and night, light and shade. You know from the titles that these two games are going to be related somehow — two sides of the same coin, that sort of thing. And, of course, the thing they've got in common is 3D.

The biggest problem facing any 3D programmer is how to store all that data. It's bad enough in ordinary games — the sprites and backgrounds take up enormous amounts of space. In three dimensional games, it's a nightmare. The programmer has to find space to store info relating to all the positions of objects and meanies, as well as having more sprite frames for each character because of the different orientations.

For all that, *Nightshade* isn't too much of a problem. There are 1024 'rooms' in the village (though you don't seem to be able to get into all of them) but each room takes up very little space. That's because all you need to know is which side the doors are on and which of the small selection of walls to use. You also have to keep track of a few meanies and special objects. Ultimate uses its now customary table technique with a small entry for each room and a larger table for the meanies containing their type and current positions. As usual the programming is slick but yawn, it's so boring — all the emphasis is on increasing speed without losing structure.

*Fairlight* is much more interesting even though the techniques that Bo Jangeborg uses for screen handling aren't up to Ultimate's standards. This is the first game, for example, I've seen for a long time that uses an LDIR instruction to move the screen buffer from memory to where you can see it. It's much more usual now to use special routines that draw line by line upwards from the bottom. This avoids any problems with the screen refresh that occurs every fiftieth of a second. Still, the fact that you can move objects from room to room and leave them there means the program structure looks much more like an adventure than any other similar game that I've looked at.

So, how's it done? Well, several tables are used to store the data while the objects are kept in one 1000 byte block. Here the entries detail the room location and the 3D co-ordinates within — that's how objects can be stacked on top of one another, for example. The table that stores the backgrounds is in a special format so that it doesn't waste space — when you have to find somewhere to store a whole 6912 byte screen buffer, space is very important! Each entry starts with a two byte number which is the length of the entry. To find a particular room, you start with the first entry; if it's not the one you want, you add the length bytes onto the current position to look at the next one and so on until you find it. Each entry itself is divided up into similar sub-tables that say what goes where in the room.

One side effect of all this space saving is that the initial set up of the screen is very complicated. It involves setting up the background and then laboriously searching the object table until all the objects in the room are found and put in their proper places. Also, they have to be found in the right order so that 'hidden' objects stay hidden. So, when you're staring at the blank screen as you pass from room to room, spare a thought for the Z80 — it's working overtime to get the new room on screen as quickly as possible.

All in all, both programs are extremely competent. Still, I can't help feeling that *Nightshade* could've done with being a bit more involved while *Fairlight* would've benefitted from Ultimate's skill with the screen. From the hacking point of view, *Fairlight* is much more rewarding and I've a hunch that Hacking Away will be choc-a-bloc with POKEs for it next month. But just to be going on with, here's a short program that'll give you infinite lives on *Nightshade* — and it's short because Ultimate has given Speedlock a miss this time round.

```
100 FOR x=1 to 5: LOAD
""CODE: NEXT x
110 POKE 53442,0: POKE
53443,12
120 RANDOMIZE USR 23424
```

All you have to do is type in the short Basic loader, run it and play your master tape through from the beginning. The original Basic loader will now be ignored. Now play till you drop!


SET TO STUN,
READY TO RUN.
WILLOW PATTERN
SUPER SILVER RANGE
FIREBIRD
NEW SUPER SILVER FOR SPECTRUM
304 CHIMERA
308 WILLOW PATTERN
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# DEADLY NIGHTSHADE

**Plague and pestilence, death and destruction. You'll find them all in Ultimate's newie, Nightshade. Sounds like a job for Sabreman — with help from Teresa Maughan!**

Imagine a deserted village, lost in time, enveloped by an evil force. Here, hideously foul creatures roam the streets, flesh falling from their rotting bodies. Sounds like the new Michael Jackson video, eh? It's actually the scenario for *Nightshade.*

The game is set in a world of death and decay. The only life forms are mad monks, gruesome ghouls, deadly demons and mutant monsters. It's your awesome task to release the Kingdom of Nightshade from the grips of an evil curse that's brought plague to the land. There are four objects for you to locate that'll wipe out the four main nasties and lift the curse.

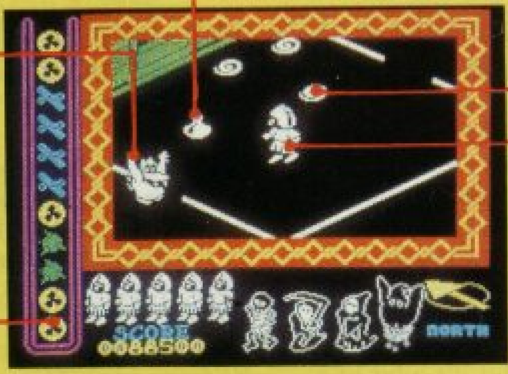
Sounds simple, huh? Well, you'll have to avoid swarms of nasties such as lethal germs, gyrating blobs and maniacal meanies. Touch them and they'll infect you with the fatal disease — but fortunately you don't die straight away, you just turn a bit of a funny colour!

To defend yourself, you must go inside the rooms and collect various antibodies to fire at the nasties — but be warned, you've gotta be quick on the trigger.

The graphics are well up to the usual Ultimate standard. The village is built up of beautifully drawn houses — and as you enter them the walls disappear so you can check up on all that's happening inside. The gooks and goblins don't have the evil aspect that the scenario suggests but they sure are some of the cutest you're ever likely to encounter. And the scrolling is nothing short of superb — you won't have seen it faster or more flicker-free.

It has to be said, though, that *Nightshade* is a couple of steps back from *Alien 8* and *Knightlore.* As an arcade adventure, the adventure element is almost non-existent — the game is much more a good ol' shoot 'em-up with the added excitement of 3D scrolling and a vast area to wander around in. Trouble is you may find the game becomes tedious unless you're heavily into mindless alien bashing.

But having said that, you have to remember that Ultimate hasn't yet come up with a naff game — and though *Nightshade's* not their best, it certainly can't be classed as a duffer.




Don't be tempted — this monster's tantalising touch will leave you feeling mighty queasy! Attack with an anti-body and be warned, it takes a lot to kill off these Ken Dodd look-alikes.

Potion Power! This special brew refreshes the parts other potions can't reach. You'll feel like a new man again after just one sup! Go easy though, this liqour is pretty scarce.

What kills all known germs dead? Spirals of course! These particular antibodies are wafting about in various rooms. so stand in a corner if you want increased antibody attraction.

These strange-looking blobs are your collection of antibodies. Let them attack the baddies' defences to protect yourself, but remember to keep your supply well topped-up.

Who's this handsome beast? My, it's you of course! — Sporting a rather fetching helmet and looking like you're ready for anything... On second thoughts, all those furtive glances over the shoulder make you seem pretty paranoid!




These boots sure weren't made for walkin'. Step on this to give your weary pins a boost! Now you can hot-foot it round the village in double quick time without falling prey to the local nasties.

This chap may look harmless, but watch him shift! Shooting him only gets him out the way for a few seconds, and what's worse, he'll soon be joined by a bunch of cronies. The objects tend to blend in with the background, so keep your eyes opened!

Yikes, it's the hooded-monk, not a very Holy one either. He's just one of the demons you've got to destroy using either the cross, the hammer, the bible or the egg-timer.

Cross your heart and hope *not* to die! Take up the cross and search out that mad monk. The cross'll flash when he's near, so you can home in for the kill. Don't get trigger happy as you'll destroy the cross before he appears...

If you didn't get your Scouts or Brownies orienteering badge, then there's a compass to help you locate the objects. That's fine if you've got time to use the thing!



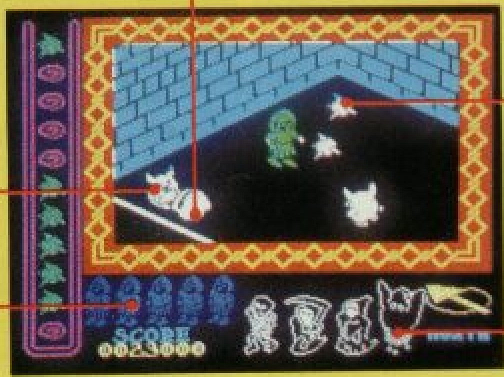

At least the scenery's pleasant, even if the inhabitants aren't! There's a whole mini-town to explore if you get tired of zapping those aliens.

'Them bones, them bones, them dry bones!' The hammer's the thing to fend off this foul fiend of a skeleton...

Spooky man! Even the skeleton's scared of this spook. Use your bible to dispel this spirit or you'll find he'll turn you into ghoulash...

Back to the biology lab to learn about the four types of antibodies. Spirals, spinners, globes and bubbles — sound more like fun fair props than deadly weapons! Their effectiveness varies, so just keep blasting!

Once wiped out, the dastardly demons will change colour... the mad monk has gone a putrid shade of purple, what a nasty habit..!




This 'Gremlins reject' ain't as much fun as he looks. Just watch him multiply and go on the rampage! Don't shoot with spirals — spinners are your best bet here.

This jelly-like blob is rife with some vile disease, so keep your distance. Stay out of reach of the germs, acid pools and spikers too... they're not nice!

You could find yourself turning yellow... then green if you're not killed outright by one of these dreaded creatures...Yuk!

This is your hit list — go for that mad monk, the grim reaper, the ghost and the skeleton! When you've blasted the lot, they'll be plunged into a fearful black abyss and you'll be freed from the evil curse... until the next game!

Losing a life is a colourful experience — you'll go a wonderful shade of blue. Once you've lost five lives, it's curtains!

crossed
to avail-
stage.

# OUT OF ALL PROPORTION

***Normal Speccy printing is ugly, ugly, ugly and boring, boring, boring. Here's shaped crusader Tony 'Slim' Samuels with a pretty neat alternative!***

No-one could say that the way the Speccy PRINTs is the most beautiful in the world. The problem is that the screen is divided into 32 character columns and every character always takes up the same amount of space on the screen. Hardly news and not the kind of thing that bothers us hacks at all. But it's a bit of a shock for all those poor misdirected human beings out there in the real world.

Now take a close look at these words in *YS*. You'll see that thin characters like I and 1 take up a lot less space than fat ones like M and W. This is our secret way of making sure you can read and re-read *YS* from cover to cover at no risk to your eyesight. Who says we don't look after you?

So how's about a little bit of machine code to print properly using this sneaky proportional printing idea? Not only will any program you write using it look really nice and be very pleasant to use but you get the added benefit of printing at any pixel position on the screen and so stuff *far* more than 32 characters on every line. Choose thin words and you'll get more than 100 characters per line! Proportional printing is therefore ideal for any program with lots of text in it — databases, word processors and so on.

## GOTO LPRINT

To make life even easier, the print program here becomes part of Speccy Basic by taking over the LPRINT

# SHAPIN' UP...

You'll find here all the code you need to get proportional printing up and running on your Speccy. Tony's also provided a designer program, so if you're not happy with his creative characters then you can knock up your own. If you're going for the minimum typing job, then you'll only need to enter three parts. The Hex Loader (which enters the code), the Proper Print machine code listing (using either our Hex Loader or your own assembler package) and finally the Character Set code using the Hex Loader program.

## A HEX FOR YOU

**In case you're wondering, this is a hex loader — a program to provide hours and hours of endless entering fun for all the family. To use it, type it in and SAVE it and then enter the print program by typing in each line of hex in the second column of the main listing (one byte at a time) starting from address 65000. When you've finished type xx. The checksum should come to 45760 if you've got it right. Next, use the loader to enter the proportional character set. It starts at 64200 and the checksum should come to 64743. Don't forget to save it all with SAVE "PROPSYS" CODE 64200,1150**

```
   10 CLEAR 62199
   20 INPUT "START LOCATION >";SL
   40 LET A=10: LET B=11: LET C=1
2: LET D=13: LET E=14: LET F=15
   50 LET CQ=0
   60 LET T=0
  100 INPUT H$
  105 IF LEN H$<>2 THEN  GO TO 10
0
  107 IF H$="XX" OR h$="xx" THEN
 GO TO 200
  110 LET H=0
  120 LET H=H+16*VAL H$(1)
  130 LET H=H+VAL H$(2)
  140 POKE SL,H: LET SL=SL+1
  145 LET CQ=CQ+H
  150 PRINT TAB (T);H$;: LET T=T+
3: IF T=33 THEN  LET T=0: PRINT
  160 GO TO 100
  200 INPUT "CHECKSUM >";CS
  210 IF CS<>CQ THEN  PRINT : PRI
NT "DATA ENTRY ERROR": STOP
  220 PRINT : PRINT "DATA OKAY"
```

## PROPER PRINT

**This is it — the machine code program that, coupled with a character set at 64200, prints like magic on your Speccy. If you've got an assembler or a monitor, you can start straight away. Otherwise nip ahead and type in the hex loader and come back when it's running.**

```
FDE8             0010       ORG   65000
5C8D             0020 ATTRP EQU   23693
22AA             0030 PIXAD EQU   22AAH
5C7B             0040 UDG   EQU   23675
```

Start the routine at 65000 and declare some labels.

```
FDE8 26A8        0050 INITI LD    H,168
FDEA 2E00        0060       LD    L,0
FDEC 22DBFE      0070       LD    (XPOS),HL
```

Reset the printing position to the top left of the screen.

```
FDEF 2A4F5C      0080 ENABL LD    HL,(23631)
FDF2 010F00      0090       LD    BC,15
FDF5 09          0100       ADD   HL,BC
FDF6 01FDFD      0110       LD    BC,DO-IT
FDF9 71          0120       LD    (HL),C
FDFA 23          0130       INC   HL
FDFB 70          0140       LD    (HL),B
FDFC C9          0150       RET
```

Change the pointer to the LPRINT routine in the CHANS table to point to the proportional printing routine.

```
FDFD E5          0160 DO-IT PUSH  HL
FDFE C5          0170       PUSH  BC
FDFF D5          0180       PUSH  DE
FE00 F5          0190       PUSH  AF
FE01 CD09FE      0200       CALL  DOIT1
FE04 F1          0210       POP   AF
FE05 D1          0220       POP   DE
FE06 C1          0230       POP   BC
FE07 E1          0240       POP   HL
FE08 C9          0250       RET
```

Save all the registers, call the printing routine, put all the registers back again and leap back to the operating system.

```
FE09 F5          0260 DOIT1 PUSH  AF
FE0A 3AE2FE      0270       LD    A,(ATFLG)
FE0D FE00        0280       CP    0
FE0F 200B        0290       JR    NZ,GETXP
FE11 F1          0300       POP   AF
```

Look to see if last character was a control code 22 — the code for AT.

```
FE12 FE16        0310 ATCHQ CP    22
FE14 2021        0320       JR    NZ,CRCHQ
FE16 3EFF        0330       LD    A,255
FE18 32E2FE      0340       LD    (ATFLG),A
FE1B C9          0350       RET
```

If the current character is an AT control code, set the ATFLG to indicate that the next two codes dealt with will be the X and Y positions for the print.

```
FE1C FEFE        0360 GETXP CP    254
FE1E 2809        0370       JR    Z,GETYP
FE20 F1          0380       POP   AF
FE21 32DBFE      0390       LD    (XPOS),A
FE24 21E2FE      0400       LD    HL,ATFLG
FE27 35          0410       DEC   (HL)
FE28 C9          0420       RET
FE29 F1          0430 GETYP POP   AF
FE2A 47          0440       LD    B,A
FE2B 3EA8        0450       LD    A,168
FE2D 90          0460       SUB   B
FE2E 32DCFE      0470       LD    (YPOS),A
FE31 3E00        0480       LD    A,0
FE33 32E2FE      0490       LD    (ATFLG),A
FE36 C9          0500       RET
```

If the last character was an AT then fetch the X and Y co-ordinates and move to the new printing position.

```
FE37 FE0D        0510 CRCHQ CP    13
FE39 2009        0520       JR    NZ,VCHRQ
FE3B CD1CFF      0530       CALL  DWNCR
FE3E 3E02        0531       LD    A,2
FE40 CD0116      0532       CALL  1601H
FE43 C9          0540 SKIPC RET
```

If the current character is a Return control code, move down 8 pixels and open channel 2 to deal with nasty INK and PAPER control codes.

```
FE44 FE20        0550 VCHRQ CP    32
FE46 3804        0560       JR    C,PRNT?
FE48 FE80        0570       CP    128
FE4A 3804        0580       JR    C,FCHR
FE4C 3E3F        0590 PRNT? LD    A,63
```

Burp! If the character is not between 32 and 127 then print a question mark instead.

```
FE4E 1800        0600       JR    FCHR
FE50 210000      0610 FCHR  LD    HL,0
FE53 6F          0620       LD    L,A
FE54 29          0630       ADD   HL,HL
FE55 29          0640       ADD   HL,HL
FE56 29          0650       ADD   HL,HL
FE57 EB          0660       EX    DE,HL
FE58 2AE6FE      0670       LD    HL,(CRADR)
FE5B 19          0680       ADD   HL,DE
FE5C 7E          0690       LD    A,(HL)
```

Figure out where the character's definition is stored in memory.

```
FE5D 32E3FE      0700       LD    (CRMSK),A
FE60 3600        0710       LD    (HL),0
```

Store the first byte of the character (the width indicator) and stick a zero byte in its place.

```
FE62 22E4FE      0720       LD    (CRAD1),HL
FE65 010700      0730 PRNIT LD    BC,7
```

We're getting there! Load CRADD with the address of the seventh byte of the character, check the character will fit on the screen and calculate the address in the display file where the character will be printed.

```
FE68 09          0740       ADD   HL,BC
FE69 22E0FE      0750       LD    (CHRAD),HL
FE6C 3ADCFE      0760       LD    A,(YPOS)
FE6F FEA9        0770       CP    169
FE71 D2FCFE      0780       JP    NC,ERRS
FE74 CD05FF      0790       CALL  FITCQ
FE77 ED4BDBFE    0800       LD    BC,(XPOS)
FE7B CDAA22      0810       CALL  PIXAD
FE7E 32DFFE      0820       LD    (PIXPD),A
FE81 22DDFE      0830       LD    (DFADD),HL
FE84 0608        0840       LD    B,8
FE86 C5          0850 PRNLP PUSH  BC
FE87 2AE0FE      0860       LD    HL,(CHRAD)
FE8A 7E          0870       LD    A,(HL)
FE8B 2B          0880       DEC   HL
FE8C 22E0FE      0890       LD    (CHRAD),HL
FE8F 6F          0900       LD    L,A
FE90 3ADFFE      0910       LD    A,(PIXPD)
FE93 FE00        0920       CP    0
FE95 CAA2FE      0930       JP    Z,PUTIT
FE98 47          0940       LD    B,A
FE99 2600        0950       LD    H,0
```

command. The syntax is the same except you can now use the AT command if you like. The program doesn't like INK and PAPER control codes but it will print in whatever permanent colours you've set with INK and PAPER. Once you've got the routine loaded, the command, LPRINT AT 0,0; "Your Spectrum" will print "Your Spectrum" proportionally spaced in the top left of your screen. All proportional printing is done as if OVER 1 was set so you've got to be careful only to print on blank bits of screen or else the result will be more of a mess than the usual PRINT command!

### GET LOADED

To get your own printing going, you're going to have to type in the proportional print program and either the character set given here or one of your own design. If you've got an assembler, you can go to work on the assembly listing. Otherwise, you'll have to type in and use the hex loader provided. Once that's in, use the hex loader to enter the proportional character set itself. Done all that? Wow, you're getting really quick! Okay, best remember to save the whole shebang as one lump with SAVE "PROPSYS" CODE 64200,1150.

Now, whenever you get the urge, you can set up the whole thing with: CLEAR 64199: LOAD "PROPSYS" CODE : RANDOMIZE USR 65000 LPRINT ; will go on working until you do a NEW. You can get it back afterwards with another RANDOMIZE USR 65000.

The Speccy's got 96 printing characters from space (CHR$(32) to the copyright symbol CHR$(127)). Each of these is defined just like a UDG using 8 bytes. A proportional character set is done in a similar way except the first byte of each definition is used to tell the print program how wide the character is, so that it can start the next character just after it.

To work out this byte, just set those bits that aren't used by the character to 1 and leave the rest at 0. If your character is four bits wide, the bits 8,7,6,5 and 4 should all be 0 (bit 4 is 0 so that there's a one pixel gap between this character and the next) and bits 0,1 and 2 should be 1. Simple really! And I've included a little font designer listing opposite so you can get started right away. There, who says I'm just a pretty face?

```
FE9B CB3D     ROTLP SRL  L
FE9D CB1C           RR   H
FE9F A7             AND  A
FEA0 10F9           DJNZ ROTLP
FEA2 ED5BDDFE PUTIT LD   DE,(DFADD)
FEA6 1A             LD   A,(DE)
FEA7 AD             XOR  L
FEA8 12             LD   (DE),A
FEA9 CD2AFF         CALL COLAD
FEAC 3ADFFE         LD   A,(PIXPO)
FEAF FE00           CP   0
FEB1 CABCFE         JP   Z,PST
FEB4 13             INC  DE
FEB5 1A             LD   A,(DE)
FEB6 AC             XOR  H
FEB7 12             LD   (DE),A
FEB8 CD2AFF         CALL COLAD
FEBB 1B             DEC  DE
FEBC 2ADDFE   PST   LD   HL,(DFADD)
FEBF CDE9FE         CALL ULINE
FEC2 22DDFE         LD   (DFADD),HL
FEC5 C1             POP  BC
FEC6 10BE           DJNZ PRNLP
```

Rotate the character definition into the correct pixel position, place it on the screen one byte at a time and make sure each byte is in the right colour.

```
FEC8 3AE3FE         LD   A,(CRMSK)
FECB 2AE4FE         LD   HL,(CRAD1)
FECE 77             LD   (HL),A
FECF 3ADBFE         LD   A,(XPOS)
FED2 47             LD   B,A
FED3 3AEBFE         LD   A,(WIDTH)
FED6 80             ADD  B
FED7 32DBFE         LD   (XPOS),A
FEDA C9             RET
```

Get the width indicator byte and put it back at the start of the character definition. Then move right the correct number of pixels for the character just printed.

```
FEDB 00       XPOS  DEFB 0
```

```
FEDC A8       YPOS  DEFB 168
FEDD 0000     DFADD DEFW 0
FEDF 00       PIXPO DEFB 0
FEE0 0000     CHRAD DEFW 0
FEE2 00       ATFLG DEFB 0
FEE3 00       CRMSK DEFB 0
FEE4 0000     CRAD1 DEFW 0
FEE6 C8F9     CRADR DEFW 64200-256
FEE8 00       WIDTH DEFB 0
```

Reserve a bit of space for some variables.

```
FEE9 F5       ULINE PUSH AF
FEEA 7C             LD   A,H
FEEB 25             DEC  H
FEEC E607           AND  7
FEEE 200A           JR   NZ,END
FEF0 7D             LD   A,L
FEF1 D620           SUB  32
FEF3 6F             LD   L,A
FEF4 3804           JR   C,END
FEF6 7C             LD   A,H
FEF7 C608           ADD  8
FEF9 67             LD   H,A
FEFA F1       END   POP  AF
FEFB C9             RET
```

Here's a handy routine that sets HL to point to the next pixel line up in the display file.

```
FEFC 3AE3FE   ERR5  LD   A,(CRMSK)
FEFF 2AE4FE         LD   HL,(CRAD1)
FF02 77             LD   (HL),A
FF03 CF             RST  8
FF04 04             DEFB 4
```

Restore the width indicator byte to the first byte of the character definition and generate an Out of Screen error.

```
FF05 0608     FITCQ LD   B,8
FF07 3AE3FE         LD   A,(CRMSK)
FF0A 4F             LD   C,A
FF0B A7       CNTLP AND  A
FF0C CB39           SRL  C
FF0E 3003           JR   NC,OUT
FF10 05             DEC  B
FF11 18F8           JR   CNTLP
FF13 78       OUT   LD   A,B
FF14 32EBFE         LD   (WIDTH),A
FF17 3ADBFE         LD   A,(XPOS)
FF1A 80             ADD  B
FF1B D0             RET  NC
FF1C 3E00     DWNCR LD   A,0
FF1E 32DBFE         LD   (XPOS),A
FF21 3ADCFE         LD   A,(YPOS)
FF24 D608           SUB  8
FF26 32DCFE         LD   (YPOS),A
FF29 C9             RET
```

Check if the character to be printed will fit on this line — if it doesn't, move down 8 pixels and back to the left hand side of the screen.

```
FF2A E5       COLAD PUSH HL
FF2B F5             PUSH AF
FF2C 7A             LD   A,D
FF2D CB0F           RRC  A
FF2F CB0F           RRC  A
FF31 CB0F           RRC  A
FF33 E603           AND  3
FF35 F658           OR   58H
FF37 67             LD   H,A
FF38 6B             LD   L,E
FF39 3A8D5C         LD   A,(ATTRP)
FF3C 77             LD   (HL),A
FF3D F1             POP  AF
FF3E E1             POP  HL
FF3F C9             RET
```

And another useful routine — it calculates the relevant address in the attributes file from a given display file address and stores the value of ATTRP (the permanent PAPER and INK colours) in it.

```
              FINIS END
```

That's all folks!

## CHARACTER SET

**Here's the info for proportionally-spaced characters — all 96 of them! Grab the hex loader and get going...**

```
07 00 00 00 00 00 00 00 3F 80 80
80 80 00 80 00 07 50 A0 00 00 00
00 00 03 50 F8 50 50 F8 50 00 03
00 78 A0 70 28 F0 00 0F A0 20 40
40 80 A0 00 07 40 A0 50 A0 A0 50
00 1F 40 80 00 00 00 00 00 1F 40
80 80 80 80 40 00 1F 80 40 40 40
40 80 00 07 90 60 F0 60 90 00 00
03 00 20 20 F8 20 20 00 1F 00 00
00 00 00 40 80 03 00 00 00 F8 00
00 00 3F 00 00 00 00 00 80 00 0F
20 20 40 40 80 80 00 03 70 88 98
E8 88 70 00 0F 40 C0 40 40 40 E0
00 03 70 88 08 30 40 F8 00 03 F8
08 30 08 88 70 00 07 80 A0 A0 F0
20 20 00 03 F8 80 70 08 88 70 00
07 60 80 E0 90 90 60 00 07 F0 10
10 20 20 20 00 03 70 88 70 88 88
70 00 07 60 90 90 70 10 60 00 3F
00 00 80 00 80 00 00 1F 00 00 00
40 00 40 80 0F 00 20 40 80 40 20
00 07 00 00 F0 00 F0 00 00 0F 00
80 40 20 40 80 00 03 70 88 10 20
00 20 00 01 78 84 B4 BC 80 78 00
07 60 90 90 F0 90 90 00 07 E0 90
E0 90 90 E0 00 07 60 90 80 80 90
60 00 07 E0 90 90 90 90 E0 00 07
F0 80 E0 80 80 F0 00 07 F0 80 E0
80 80 80 00 07 60 90 80 B0 90 60
00 07 90 90 F0 90 90 90 00 0F E0
40 40 40 40 E0 00 07 70 10 10 10
90 60 00 07 80 90 A0 C0 A0 90 00
0F 80 80 80 80 80 E0 00 03 88 D8
A8 88 88 88 00 07 90 D0 D0 B0 B0
90 00 07 60 90 90 90 90 60 00 07
E0 90 90 E0 80 80 00 07 60 90 90
90 B0 70 00 07 E0 90 90 E0 A0 90
00 07 60 90 40 20 90 60 00 0F E0
40 40 40 40 40 00 07 90 90 90 90
90 60 00 0F A0 A0 A0 A0 A0 40 00
03 88 88 88 A8 A8 50 00 07 90 90
60 60 90 90 00 07 90 90 90 70 10
60 00 07 F0 10 20 40 80 F0 00 1F
C0 80 80 80 80 C0 00 0F 80 80 40
40 20 20 00 1F C0 40 40 40 40 C0
00 03 20 70 A8 20 20 20 00 07 00
00 00 00 00 F8 00 07 60 90 80 E0
80 F0 00 03 00 70 90 90 90 68 00
07 80 80 E0 90 90 E0 00 07 00 60
90 80 90 60 00 07 10 10 70 90 90
70 00 07 00 60 90 E0 80 70 00 07
00 60 90 80 E0 80 80 07 00 70 90
90 70 10 60 07 80 80 E0 90 90 90
00 3F 00 80 00 80 80 80 00 0F 00
20 00 20 20 A0 40 0F 80 80 A0 C0
A0 A0 00 1F 80 80 80 80 80 40 00
03 00 50 A8 A8 88 88 00 07 00 E0
90 90 90 90 00 07 00 60 90 90 90
60 00 07 00 E0 90 90 E0 80 80 03
00 70 90 90 70 10 18 0F 00 60 80
80 80 80 00 07 00 70 80 60 10 E0
00 0F 00 80 E0 80 80 60 00 07 00
90 90 90 90 60 00 0F 00 A0 A0 A0
A0 40 00 03 00 88 88 88 A8 50 00
0F 00 A0 A0 40 A0 A0 00 07 00 90
90 90 70 10 60 03 00 F8 10 20 40
F8 00 0F 60 40 80 80 40 60 00 3F
80 80 80 80 80 80 80 0F C0 40 20
20 40 C0 00 01 00 00 64 98 00 00
00 00 7C 82 BA A2 BA 82 7C

CHECKSUM >64743
```

## FONT DESIGNER

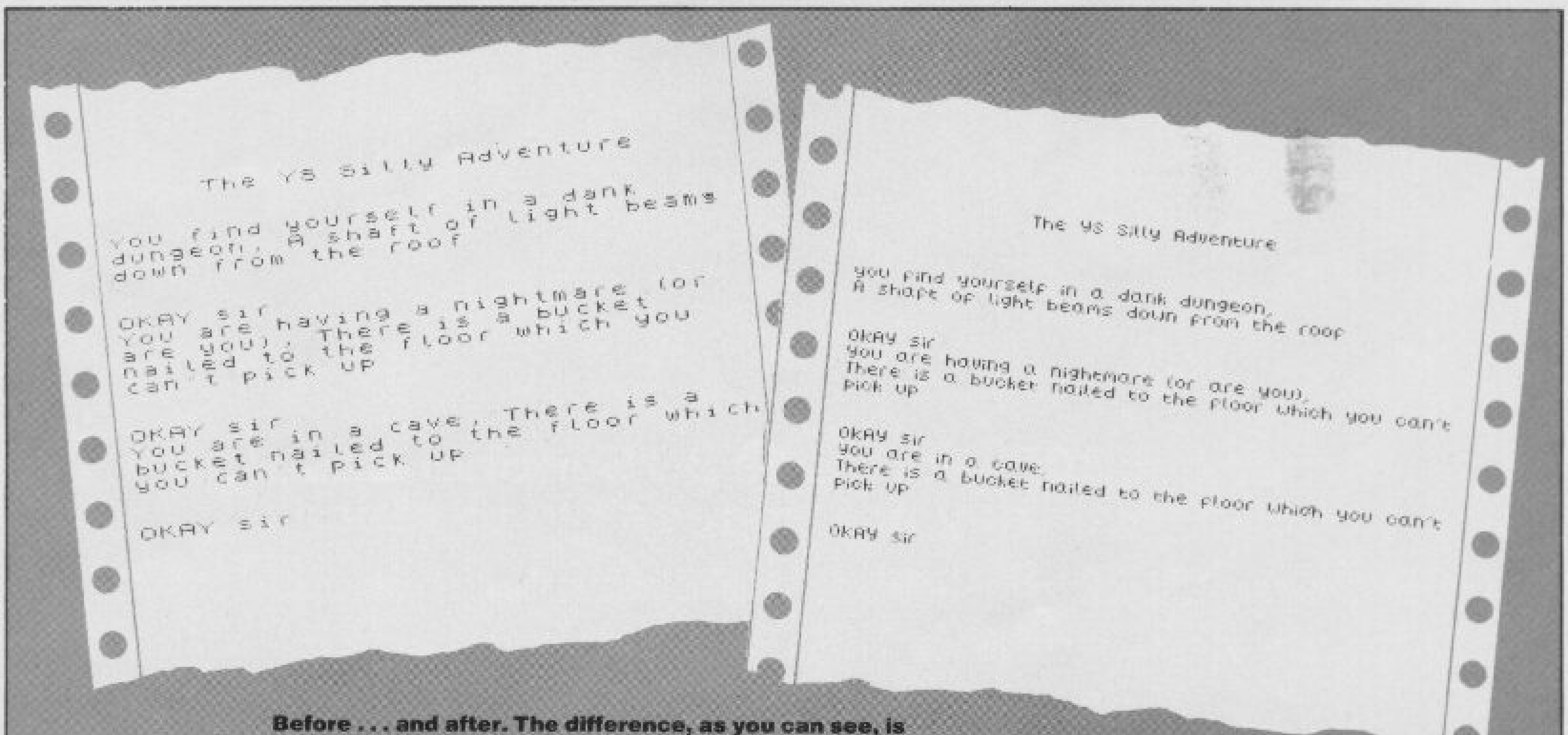
**You can use this either for the proportional printing program or for the Speccy's normal characters. Q,A,O and P move the cursor round — give Troubleshootin' Pete a ring if you can't work out which does which direction! To set a pixel use M and to turn one off use N. F stores the design on the grid in memory as any particular character you want, D displays any character, U shows the whole character set and S and J save and load the whole lot for you. Once you've saved a new set, you can load it into the proportional print program with LOAD "name" CODE 64200. Away you go...**

```
 10 CLEAR 39999
 20 LET ba=40000
 100 PRINT AT 2,3;"[graphics]"
 110 FOR f=3 TO 10: PRINT AT f,3
;"[graphic]OOOOOOOO[graphic]": NEXT f
 120 PRINT AT 11,3;"[graphics]"
 130 LET a=0: LET b=0
 200 OVER 1: PRINT AT a+3,b+4;"[graphic]
": PAUSE 2: PRINT AT a+3,b+4;"[graphic]"
: PAUSE 2: OVER 0
 210 LET a=a+(INKEY$="a" AND a<7
)-(INKEY$="q" AND a>0)
 220 LET b=b+(INKEY$="p" AND b<7
)-(INKEY$="o" AND b>0)
 230 IF INKEY$="m" THEN PRINT A
T a+3,b+4; INVERSE 1;"X": PLOT b
+160,(8-a)+151
 240 IF INKEY$="n" THEN PRINT A
T a+3,b+4;"O": PLOT INVERSE 1;b
+160,(8-a)+151
 250 IF INKEY$="f" THEN GO TO 3
00
 260 IF INKEY$="d" THEN GO TO 4
00
 270 IF INKEY$="u" THEN GO TO 5
00
 275 IF INKEY$="s" THEN GO TO 1
000
 280 IF INKEY$="j" THEN GO TO 1
020
 290 GO TO 200
 300 INPUT "WHICH CHARACTER ";c$
 310 IF LEN c$<>1 THEN GO TO 30
0
 320 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 300
 330 LET c=CODE c$
 340 FOR f=0 TO 7
 350 POKE (c-32)*8+f+ba,PEEK (16
468+(f*256)): NEXT f: RUN
 400 INPUT "WHICH CHARACTER ";c$
 410 IF LEN c$<>1 THEN GO TO 40
0
 420 IF CODE c$<32 OR CODE c$>12
7 THEN GO TO 400
 430 POKE 23606,64: POKE 23607,1
55: PRINT AT 2,20;c$: POKE 23606
,0: POKE 23607,60
 440 FOR a=0 TO 7: FOR b=0 TO 7
 450 IF POINT (b+160,(8-a)+151)=
1 THEN PRINT AT a+3,b+4; INVERS
E 1;"X": GO TO 470
 460 PRINT AT a+3,b+4;"O"
 470 NEXT b: NEXT a
 480 LET a=0: LET b=0: GO TO 200
 500 PRINT AT 15,0;: FOR f=32 TO
 127: PRINT BRIGHT 1;CHR$ f;" "
;: NEXT f
 501 PRINT AT 15,0;" ";: OVER 1:
 FOR f=32 TO 127: POKE 23606,64:
 POKE 23607,155: PRINT BRIGHT 1
;CHR$ f;: POKE 23606,0: POKE 236
07,60: PRINT " ";: NEXT f: OVER
0: POKE 23606,0: POKE 23607,60
 510 BEEP .1,1: PAUSE 0: PAUSE 0
: RUN
1000 INPUT "file name ";f$: SAVE
 f$CODE 40000,768: RUN
1020 INPUT "file name ";f$: LOAD
 f$CODE 40000,768: RUN
9999 STOP : ERASE "m";1;"YSGD":
SAVE *"m";1;"YSGD": STOP
```

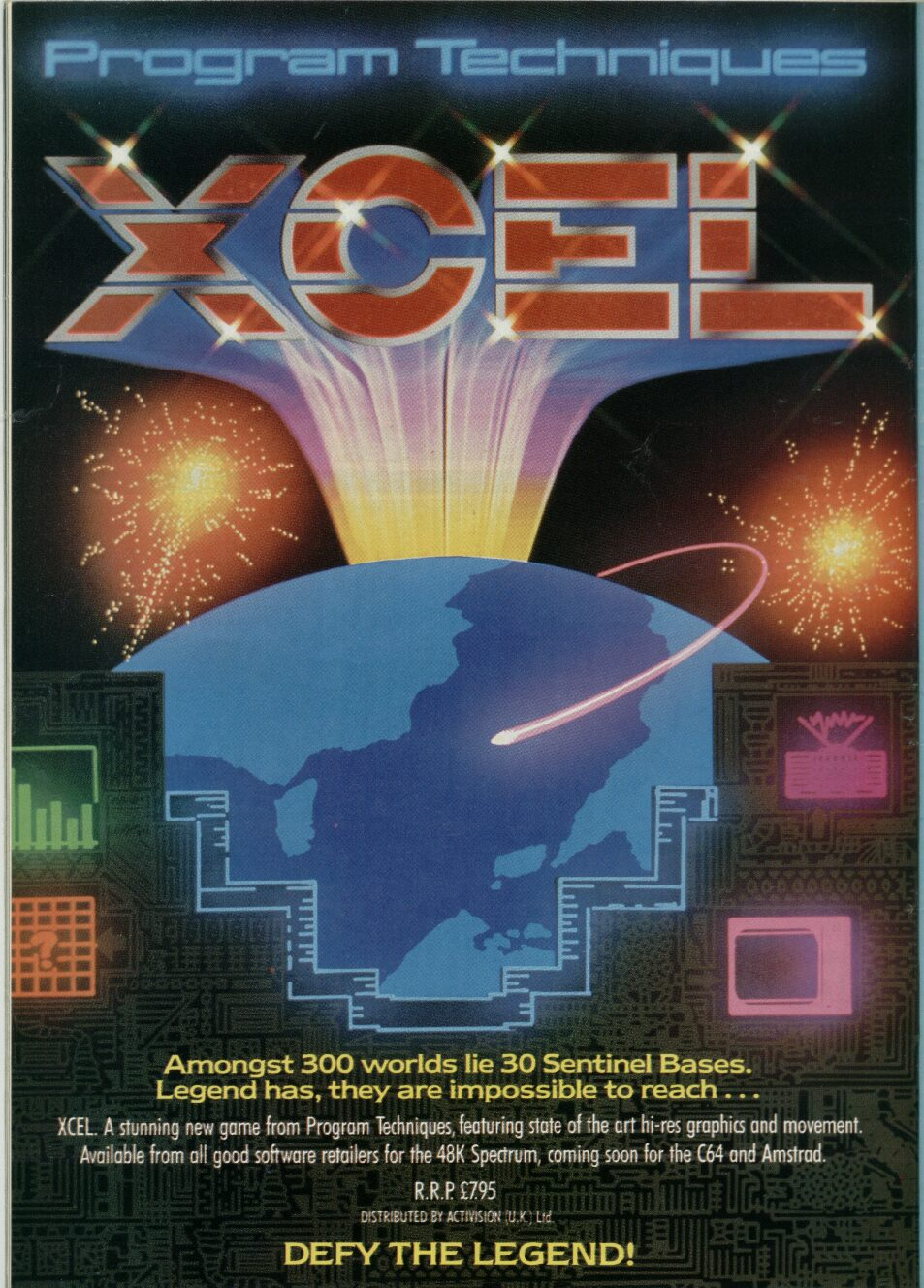
## DEMO LISTING JOB

**If you're still confused about life, death and the meaning of proportional printing, try out this major new adventure program once you've got PROPSYS working. Cor, it's even harder than *Castle Rathbone!* Just so you can see how awful Speccy printing is, the magic word xyzzy will flip you between the two types of printing.**

```
  1 REM *Proportional Printing*
  2 REM * Tony Samuels 1985 *
  9 REM --Initilize routine--
 10 LET l=USR 65000
 11 PAPER 0: BORDER 0: CLS
 12 FOR f=1 TO 7
 15 INK f
 20 LPRINT AT f*2+50,(f-1)*8;"P
roportional Printing"
 30 NEXT f
 40 FOR f=7 TO 1 STEP -1
 50 INK f
 60 LPRINT AT f*2+50,(6+(8-f))*
8;"Proportional Printing"
 70 NEXT f
 80 FOR f=0 TO 10
 85 INK RND*6+1
 90 LPRINT AT 165-f*2,80+f*8;"I
n High Resolution"
 120 NEXT f
 125 PAUSE 400
 130 INK 0: PAPER 0: BORDER 0: C
LS
 132 LET l=USR 65000
 135 INK 5
 136 LET c=3
 140 LPRINT AT 70,0;"The YS Sill
y Adventure"
 145 DATA "You are in a room","Y
ou are in a cave","you find your
self in a extremely messy office (Y
 in an extremely messy office (Y
eah ed.) !","You are having a ni
ghtmare (or are you)"
 146 DATA "A shaft of light beam
s down from the roof","It is dar
k","There is a bucket nailed to
the floor which you can't pick u
p","There are strange etchings o
n the wall","A wind is blowing"
 150 LPRINT : LPRINT : LPRINT
 160 INK RND*4+3
 170 RESTORE 145: FOR f=1 TO INT
 (RND*5)+1: READ f$:: NEXT f
 180 RESTORE 146: FOR f=1 TO INT
 (RND*5)+1: READ s$:: NEXT f
 185 IF PEEK 65244<30 THEN LET
l=USR 65000: CLS
 190 PRINT )c;f$;", ";s$: PRINT
)c
 200 INPUT INK 5;"COMMAND >";c$
 210 IF c$="xyzzy" THEN IF c=2
THEN LET c=3: RANDOMIZE USR 650
00: CLS : GO TO 221
 220 IF c$="xyzzy" THEN IF c=3
THEN LET c=2: CLS
 230 IF c$="n" OR c$="s" OR c$="
w" OR c$="e" OR c$="xyzzy" THEN
 GO TO 250
 235 IF PEEK 65244<30 THEN LET
l=USR 65000: CLS
 240 INK 5: PRINT )c: PRINT )c;"
I'm sorry I dont understand !":
BEEP .5,1: GO TO 200
 250 PRINT )c: PRINT )c;"OKAY si
r"
 300 GO TO 160
```

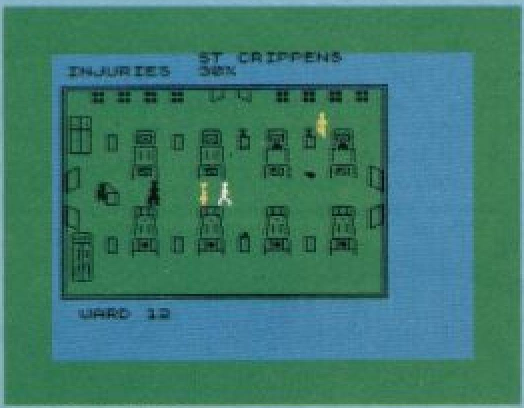



**Before . . . and after. The difference, as you can see, is quite dramatic. Not only is the proportional text more pleasing to look at — it's also easier to read!**


Program Techniques
XCEL
Amongst 300 worlds lie 30 Sentinel Bases.
Legend has, they are impossible to reach . . .
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Available from all good software retailers for the 48K Spectrum, coming soon for the C64 and Amstrad.
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DEFY THE LEGEND!

# JOYSTICK JURY

***Are you ready for a software seige? It's time for our trusty panel of joystick jurors to line up all the latest and greatest games and put them through their paces! Let* Ross Holman, Rick Robson *and* Dougie Bern *lead you to the hottest arcade action around!***




**ST CRIPPENS**
**Creative Sparks £2.50**

**Rick:** Creative Sparks has come up with a cheap and nasty for the sick at heart.. But then I like 'em cheap and nasty.

More horrific than *Young Doctors, St. Crippens* makes *St. Elsewhere* look like a Swiss Spa. You have to try and escape the worst hospital in the world before getting limbs lopped off by nurses, porters and genetic mutants. The game is wildly inaccurate. For a start you can tell the difference between the genetic mutants and the nurses. To escape you must find bribes of ciggies and beer to swop for clothes to slip by the security guards.

A concept so gruesome as to be brilliant, its tackiness is exceeded only by that of the graphics that have a certain minimalist charm, ie there's not much of them. The collision detection is so bad that the nurses presumably kill you with airborne germs as I kept getting zapped *miles* before actual contact. A couple of hours of this and you'll want to put the programmers in casualty, if you're not already in the mental ward. I gave this to me Dad — he reckoned it was a cut above the rest. If you're into squeamish fun then look no further. **6/10**

**Ross:** Original idea, unoriginal graphics, but more than a pain to play. The collision detection is awful and means that you get struck down all too frequently. I never did like hospitals. **2/10**

**Dougie:** Nice idea ... shame about the game! I definitely wouldn't want to stay at this hospital, what with all those mutants and 'orrible nurses hanging around. Just keep taking the tablets and you may never have to go near this game. **2/10**



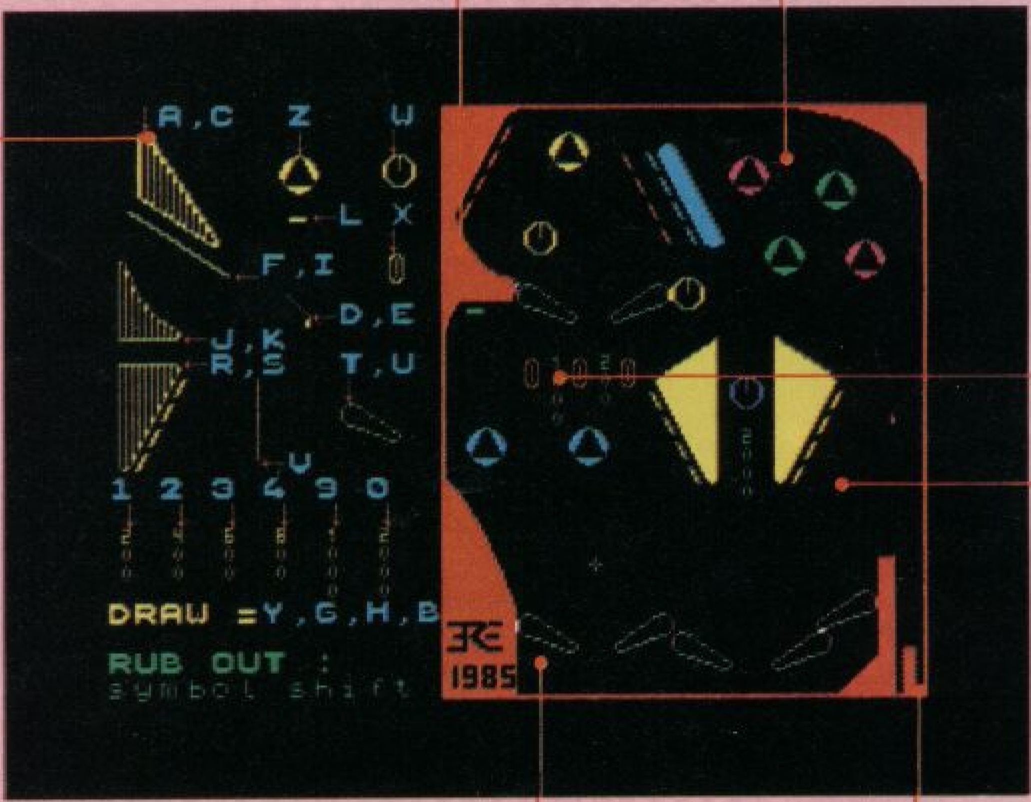

## RICK'S RAVE OF THE MONTH

These posts count for bonus points after each ball — get as many as possible before going down the tube.

Yes the game even includes tilt! You can nudge that ball over just a little, but go too far and... Ooops!

You position the bumpers and the like, that you want on the play area by simply pressing their letter label. The arrow on the object marks the point from which they'll be drawn.

Macadam features all those nice bits you get on the 'real' machines including extra balls, bonus points and something mysteriously tagged 'special'.




This is the screen that will allow you to design your own Pinball game. If your efforts are judged the best by PSS then you could win a real full-sized machine for your bedroom!

If you get bored with this layout then you can re-design your own. One of the program's most powerful features, that!

This game's got more flippers than a school of dolphins. You see, Macadam will let you have as many flippers as you care to cram into the screen.

The ball's shot out from here and you've total control over the speed it flies out at. It's all done in the press of a button!

**MACADAM BUMPER**
**PSS £9.95**

**Rick: Well, flip me, what a bumper treat for pinball and programming wizards. This is the pinball game in excelsis!**

**But not only that, this game has the facility to let you design your *own* pin ball table. Mind you, there's nothing wrong with the programmed one. And if you come up with a beaut then PSS will build it and give it to you. If you don't win their competion it'll still provide you with endless permutations of bumpers, bells and ripples.**

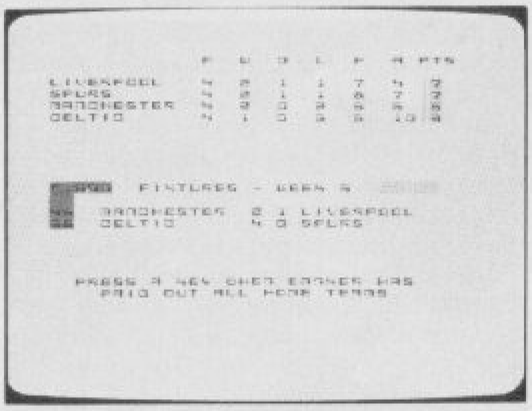
**Right from the loading screen this game captures all the thrills of those nights manically flexing your flipper fingers. But there's no seven foot lurch behind you ready to top yer if yer beat his score.**

**Like all the best games its simplicity itself. Six flippers are controlled by two keys. For a little ambience, press C to put your money in. (No bent 10ps allowed). Punch up the number of players you want then release the ball at the pace you like to pin those posts or pot that special. As a simulation its uncanny. The flippers have the deftness and delicacy of the best of the real thing. You can jolt — but gently, or else, of course you tilt. You can catch and hold the ball for precision shooting — or flip as frantically as your reflexes allow.**

**You don't have to be a Tommy to enjoy this — nor, indeed, to have played pinball before. But I bet you'll be deaf, dumb and blind to any other Arcades once you're hooked on this! 9/10**


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# JOYSTICK JURY



## BRYAN ROBSON'S SUPERLEAGUE
**Paul Lamond/£12.95**

**Rick:** You can tell this is Bryan Robson's football game and not Glenn Hoddle's. The emphasis is definitely on sweat and perseverance, not grace and artistry. This is a manager's game, not a simulation, but presumably Bryan's name sells better too.

The gimmick of this is to combine the pleasures (and pitfalls) of a dice board with a computer. Of course they could be combined on a T.V. screen but then you wouldn't get the impressive packaging. If you buy this for the skills of the ball rather than the beauty of the box you might be disappointed.

Basically you have to build a team and keep it fit (and more importantly solvent) to win the league as you battle against chance and hazards depicted by weather, bank managers and errant train drivers rather than Barnes or Gary Lineker. Your matches are mapped out on the board and take you to the major cities rather than the major teams.

Yer actual fans (and there are some left!) might think too much emphasis is put on weather as though this is cricket not soccer. A player's worth is seen in monetary, not skill terms but the most expensive is only £120,000 so we're really in the second division.

You can profit by breaking your opponent's legs (without fear of suspension) or cheat by saving goals that the ref hasn't seen go over the line. Not bad as a long playing strategy game. **6/10**

**Ross:** Lovely box — wonderful presentation and all that, but I reckon the software house behind it should have spent a little more cash on the program rather than the promotional gear. **7/10**

**Dougie:** I always did go for the Football Manager type programs. This one ain't up to the original's standards, but it's quite a challenge once you settle in. **8/10**

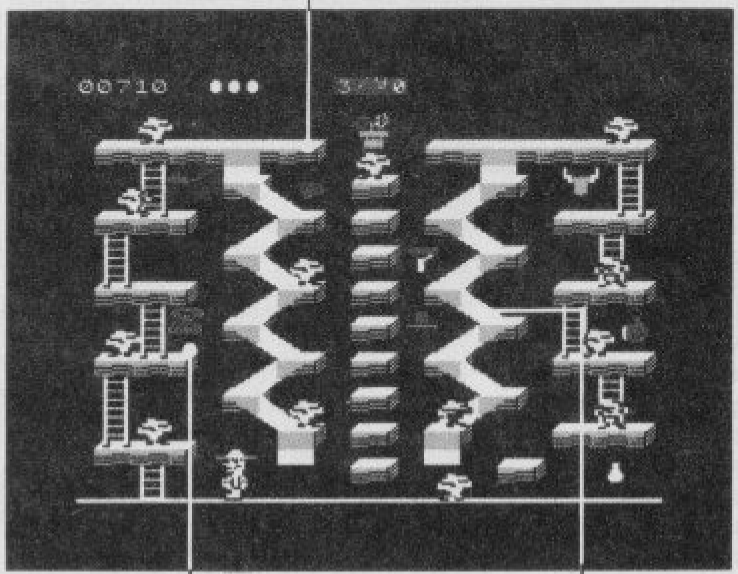


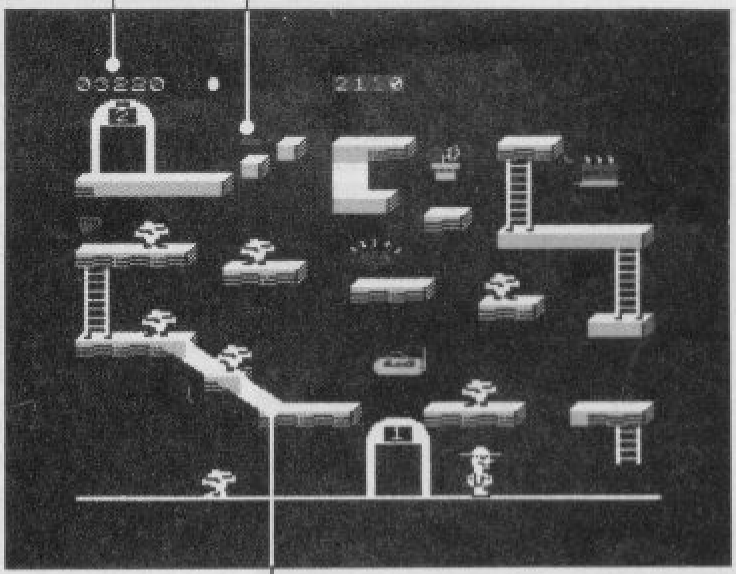

# ROSS'S RAVE OF THE MONTH

The idea of each screen is to turn all the shaded platform areas solid. You do this by — you guessed it — walking on them!

Throughout the game you'll come across these doors with the numbers nailed above them. These are the transporters. Climb into one and press 'P' — you'll be beamed up to the next door in sequence.

Collecting these knick-knacks gives you power to get your own back on the meanies. Isn't that like the puck pellets in *Pac Man*.




As long as you don't linger, you'll find that you'll be able to get through the screens quite simply. The objects are laid out so that if you take the right path you'll pick up an object every one or two meanies — enabling you to eat them without having to stop.

Go for a slide down here. On later levels these slides can run from top to bottom of the screen — weaving around every possible object — somewhat like a Butlins funpool!

Bob's long distance jumping abilities aren't as good as those of some other platform heroes. It seems that if you fall a matter of two steps, you're in for the squash routine.

## BOUNTY BOB
**US Gold £7.95**

**Ross: Scrambling around hundreds of screens looking for assorted objects and dodging hordes of nasties — sounds familiar, eh? Yep, it's yet another ladders and platforms game. But wait! Don't try for a getaway in sheer disgust, this one's a cut above yer average, believe me.**

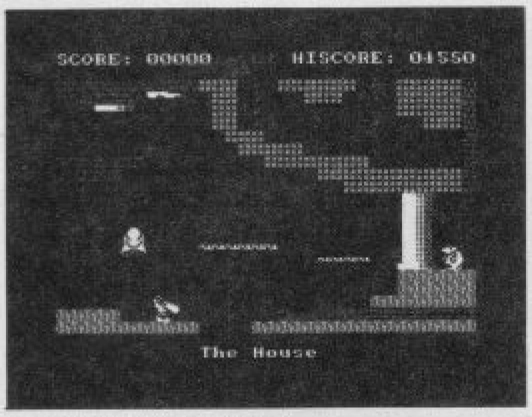
**So what's it all about? You've got to guide bouncing *Bounty Bob* around quite a few screens, hording unlikely combinations of clutter like flower pots, gems and cakes. As you'd expect there's no shortage of nasties to hamper his progress, but Bounty's got a handy asset, his own insatiable appetite! Just like a magpie or an old billy goat, he'll greedily demolish every object in sight, and by doing this he transforms the yellow nasties into an appetising snack too! There's a lot to be said for greedin this game!**

**There's plenty of leaping and bounding for *Bounty Bob* to try, but don't let him fall too far or he's a gonner! With only three lives he can't afford to take too many risks!**

**If you manage to touch every platform in the *Painter* game part, you'll then be promoted to the next screen. And that's where the fun starts. Bounty Bob can take lifts, slide down the longest tracks possible, use the transporters and generally cause havoc amongst the idyllic lives of the nasty green things.**

**There's only one thing that you'll lack while playing Bounty Bob — that's time to think. Bob won't have time to hang around because the meanies will be on his tail if he does.**

**All in all, it's pretty addictive, but don't be fooled into thinking it's a cinch... you'll see why... 9/10**




## MONTY ON THE RUN

**Gremlin Graphics £7.95**

**Ross:** For all the *Monty Mole* fans out there, this game continues his escapades, only this time, it all seems a little more difficult. You're gonna have to help little Monty escape the forces of Law and Order and get him on a boat bound for France!

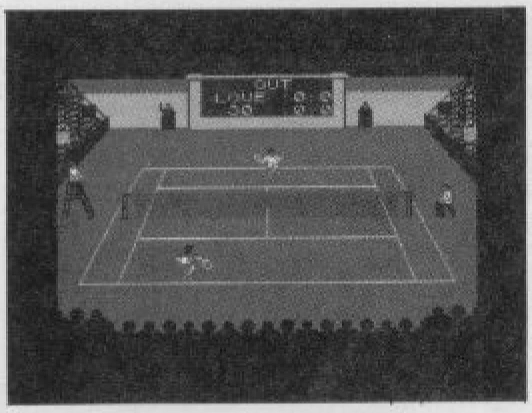
The scenario of screens behind the tale of this cosmopolitan little rodent are similar to those in the original game. It's all platforms, ladders, ropes, and even those horrible 'crushers'. What's new are the transporters which flash on and off in spectacular multicolours, and you'll have to learn the colour code as quickly as possible if you want to pass through them safely. It's a bit like complicated traffic lights really...

You can kit Monty out with five assorted objects at the start, to set him up in life. You then have to collect gold coins, and use the objects, just as you did in the first Monty game. Your timing has to be pretty hot, and mapping is essential

I'd say that this game has a higher fun factor than its predecessor especially since Monty has become more dynamic and has taken to leaps and somersaults rather than straight walking! This adds to the visual sparkle and keeps the adrenalin flowing. It's a goodie, try it! **9/10**

**Dougie:** He flies through the air with the greatest of ease... Just another boring platform game? Rubbish! Give me that joystick back... **9/10**

**Rick:** Not a bad rework on an old adventure. Monty seems to have developed a few more athletic tendencies though, so I won't be surprised if I end up with a headache after playing this one. **9/10**



## SUPERBRAT

**Atlantis £1.99**

**Rick:** Atlantis they say disappeared below the waves without trace. Not unlike McEnroe at Wimbledon! And really this tennis simulation that promises so much, ends up a loser too. Play a few rallies on the opposition simulations before making your mind up.

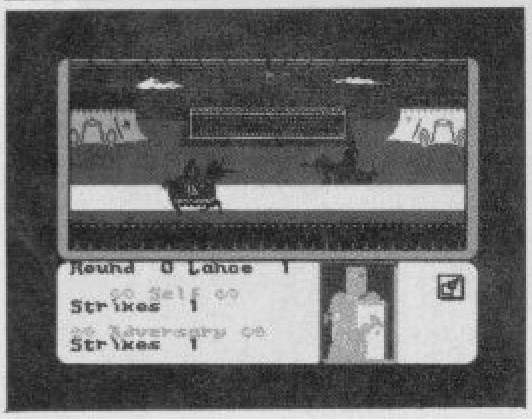
Mind you, it does have *some* aces up its sleeve. All the basic facilities of singles tennis are on offer. Matches are of 3 or 5 sets and follow the score patterns of the real McCoy. You can actually toss the ball to serve — until you've mastered the art, its underarm — no wonder superbrat is so often the winner! — but an ace or two is still possible. Direction, curiously, depends on the speed you hit the ball — fast to the left, slow to the right. Combined with lateral movement angles and cross courts can be created — a step up from the old pit-pat over the net.

Master these movements and then progress through the three layers of difficulty — the British tournament (for beginners of course!), then European and World. Though would it've been so hard to actually name tournaments?

Unfortunately, you can't programme yourself or the omnipresent superbrat for different skills or variations in temperament or style so it can take on the monotony of the base-line basher. But it could while away the months until the strawberries and cream are fresh again.

**Ross:** Tennis? You *cannot* be serious, man... **5/10**

**Dougie:** An unoriginal idea with an unchallenging game. This one scores no aces with me. **5/10**



## THE EVIL CROWN

**Mind Games £9.95**

**Dougie:** *The Evil Crown* is an Icon driven, trading simulation of the middle ages, where you take the part of lord and master over the peasants. But that's not enough to satisfy your lust for power, so you're going for the big one, *The Evil Crown*, Top Dog, The BOSS!

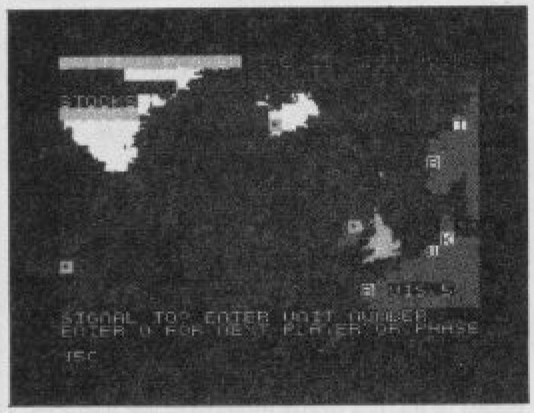
As Top Baddy, your job's to make sure the peasants don't get too big for their boots, sort out the other Barons who've got designs on the throne, look after your loyal troops and expand your lands as well! Not only that, you've got to thrash the chainmail off your opponents' knights at the annual jousting tournament. Nothing too difficult, in fact, it's all in a knight's work for an apprentice tyrant like yourself. Be careful at the jousting though, as some of the knights are a bit knatty with ye olde lance, they like to lance-a-lot (*groan Ed.*).

The game itself is well written and the graphics are fairly good, not brilliant, but they'll do. The icon driver is one of the smoothest and easiest I've ever used

Although I enjoyed playing *The Evil Crown*, I have to say that they'd have a hard job separating me from a tenner for it! Perhaps Mind Games should concentrate more on the software and less on the megasized boxes! **5/10**

**Ross:** Mind Games have made the move from menu to icon and pointer driven games quite smoothly, and seem to find games that suit this new environment. The graphics are great and the game's pretty enjoyable. **9/10**

**Rick:** It's the only game of Kingdoms that I reckon's worth playing. The icons are a bit tricky at first, but you'll soon get used to them. **8/10**



## CONVOY

**Budgie £2.50**

**Dougie:** *Zis* iz a very interezting simulation game. Lizten, you wargaming fanaticz out zere. Ze scenario is WW II, ze location, the North Atlantic. You and your partner play ze parts of ze commanders in the British and German Naval forces. Your mission? to destroy ze enemy convoy and sink their flagship — zats all.

Ze fleet under your command haz ze full complement of Aircraft carriers, Battleships, Cruisers, Destroyers and Submarines. Occasionally, you have ze benefit of ze air reconaissanze too.

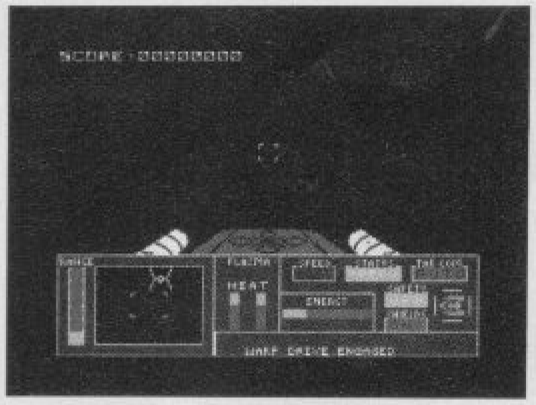
Ze game starts with ze British Player being given ze option to review his fleets' status or begin moving it around. He iz allowed to set the speed and course of each vessel independently, so he haz full control over zair movements. Power, huh!

Convoy iz a very interezting game if you like ze wars, but it's written in ze Basic vhich makes it very slow and difficult to play. At two and a half poundz, it's not a winner, but itz very good practice for vinning ze wars and ruling ze vurld ... Ha, Ha, Ha!! **6/10**

**Rick:** For a budget game it ain't bad, but it's not for the uncommitted wargamer or non-strategist. Shame you have to reload after each game. **7/10**

**Ross:** A well-produced version of battleships with extra graphics and better computer control. There's nothing wonderful to make saying "Get yourself a *Convoy*" worthwhile. **4/10**

# JOYSTICK JURY



### CODENAME MAT II
**Domark £8.95**

**Ross:** As I suspected, this game is a near clone of *Codename Mat 1*. It's time to get your spacesuit out and join the *Star Trek* league of alien-zappers again.

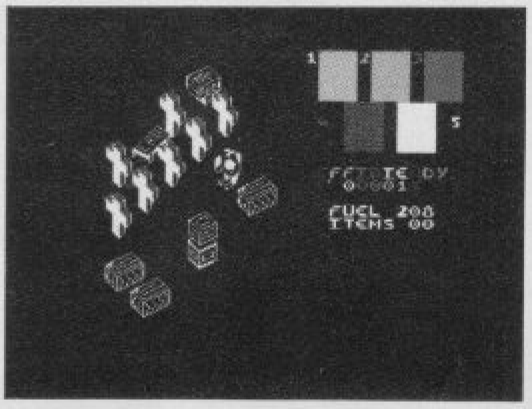
The scenario is a few ions different from the original, — you'll be protecting the 24 satellites that are circling the Mines of Vesta. (*So that's where they get the curries from? Ed*) Maintaining your satellites is a bit like painting the Forth Bridge as the nasty little Myons keep trying to destroy at least one satellite out of each group of four, so you must keep repairing them without letting the links between groups break down. Circles of boredom, perhaps?

Your craft is well equipped to feed you with info about your status, etc. As for fighting back, you've got a choice of lasers or energy bolts to attack with. The lasers are faster but deprive you of more energy into the bargain. You must control the temperature of the lasers, speed, shields and all — which leads to not only a complex game but a wonderful tangle of fingers too! And I thought computers had done away with such mundane tasks...

If you've played *Codename Mat 1* then there's no real surprises for you. If not, then take a look. **7/10**

**Dougie:** Better than *Codename Mat 1* it may be, but it ain't as hot as *Starion, Elite* and games of that ilk. **6/10**

**Rick:** I never played *Codename Mat 1*, and I'm not sure whether I should have bothered with the sequel. 3D space wars are a bit dead unless you can do them well. **5/10**




### CYLU
**Firebird £2.50**

**Ross:** I was hoping that this would be some kind of crazy maze game... but to say that would be misleading. There's not so much as a measly minataur to stumble across in this limp labyrinth.

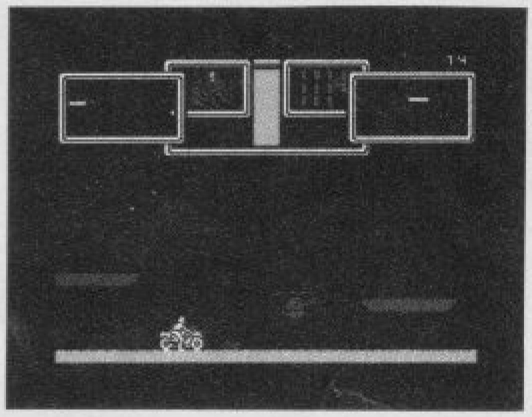
Talking of myths, I was certainly myth-lead by the claim that this game's graphics were up to *Alien 8* standard — which *would* be impressive at £2.50! But no, they're not that good at all. It *is* a 3D style game, which although pretty, doesn't help you manoeuvre. The 3D bit means that the corridors between blocks are on the diagonals, and as your robot friend moves a character block at a time, staying on course is pretty difficult.

Big problem number two, is finding fuel cells to replenish your supply as you busily consume away on your convaluted travels. You can only carry five things around, so don't tank yourself up too much.

Access to hidden parts of the maze is gained by using keys to activate any of the nine teleport terminals. But even there, you won't be in for any great surprises. As a bargain priced game it's reasonable, but it's not what you'd call 'amazing'. **5/10**

**Rick:** You're either going to love or hate this game. I hate it. The weird 3D effect confuses me beyond wanting to play, and as my fuel runs out before I get a chance to get into it, I ain't going to bother trying. **5/10**

**Dougie:** If I had time to get into this I'm sure I'd enjoy it. As it is I just can't understand what makes it tick. **7/10**



### STREET HAWK
**Ocean £6.95**

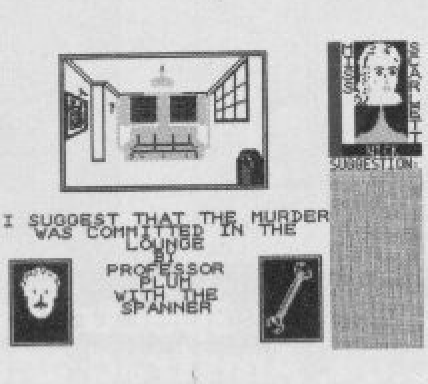
**Dougie:** *Street Hawk*'s another one of those TV tie-ups of which we all expect great things. I'm sure you're as disappointed as me to learn that once again, the computer game bears no relation to the TV show. I just wish for a change that someone would actually do a good TV or movie game. Anyway, back to the game, if like me you're a fan of the original *Defender*, this game's for you.

First, you have to charge up your *Street Hawk* by gaining points through the accuracy of your laser firing. Once you've got the juice then you're off, your mission ?... to blast the enemy helicopters to bits and rescue the survivors -- simple innit!!, You've also got to pick up the pieces of some of the enemy helicopters to get you on to the next level. Keep a keen eye on the twin scanners to make sure you know where the next attack is coming from.

All in all, if you're a *Defender* fan, then this game's got some of the fastest, flicker-free, hi-res sprites that I've ever seen on the Speccy. And it's full of hi-speed Defender style action, though I'm not sure that my software collection really needs another *Defender* style program. **6/10**

**Rick:** The ultimate for Arcade Hell's Angels. Fast, furious and full throttle for battling bikers chasing choppers with choppers. Not one for the meek and mild. **7/10**

**Ross:** *Defender* with motorbikes — didn't Activision do something similar on the Atari two years ago? Points for pretty graphics, but nothing for originality. **7/10**




### CLUEDO
**Leisure Genius £9.95**

**Ross:** Was it Mrs. Peacock, in the Conservatory, with the revolver ... or Reverend Green in the Library? For those of you who've never played this classic board game, the thought of solving mysterious murders in a huge mansion setting must sound pretty intriguing. But the thing is, after you've learnt all the names of the characters, and the rooms, the novelty wears well and truly off!

As the Spectrum version follows the original Waddington's traditions, there's nothing to distinguish the two. You'll see the same board, throw the same dice and make the same old moves from room to room. You'll also make the same old accusations about who did what, and where? What's more, you'll miss out on the miniature weapons that you can place on the board in the original.

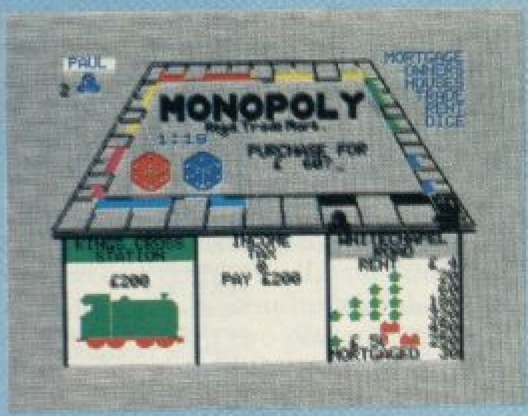
Another let down is the pictorial versions of the rooms. They convert the palatial, spacious residence of your imagination into a vision of next-door's pokey semi... shame.

It has to be said that the graphics are clear, and the speed of play is pretty nifty, so you'll be kept on the move. If you fancy yourself as a good-ol'-fashioned detective, then you'll find everything you need in this one. **6/10**

**Rick:** Same old solid replication of the board game. Ivor Notion Miss Scarlett did it with the lead-piping, but that's another story. If you're a *Cluedo* fan, you could be playing it for hours, in the kitchen, the lounge or wherever! **7/10**

**Dougie:** The graphics are nice and the program's well written — but who could think of playing *Cluedo* on anything but the lounge floor? **7/10**

# JOYSTICK JURY




## MONOPOLY

**Leisure Genius £9.95**

**Rick:** Does following the traumas of Uncle Clive in the market place put too much strain on the old ticker? Why not relax and put your greenbacks into where the real bunce is — simple low down, land and property. Leisure Genius's adaption of Waddington's classic board game *Monopoly* could be just the start you need — gazump your girlfriend, bankrupt your brother and mortgage your mother in this fun family game!

As *Monopoly* imitates life, so Leisure Genius has unerringly simulated it for the computer. Technically, nothing would appear to be missing from the original. And there are added bonuses — your snotty brother can't kick the board over 'cos he's 'the boot' again or 'cos he's landed on your Regent Street with 4 hotels for the eighth time (tee hee!). More importantly, there's a facility for playing by yourself for all you lonely hearts Monopoly fans. Trading with other players seems slower than in the board version — and not so much fun — it's hard to haggle and shout abuse on a TV screen (for some at least).

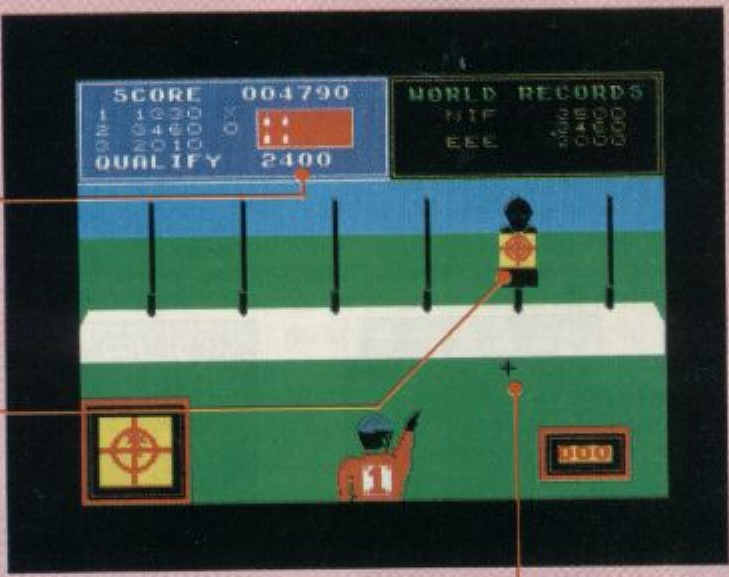
I also missed the crackle of new £50 toy-town notes between my fingers — and piling up my placcy houses and hotels. Otherwise it's a worthy if hardly imaginative translation, staying loyal to the original but you probably expect a little more from your computer games. **6/10**

**Ross:** An excellent conversion from the original, albeit slightly harder to have an enjoyable game. This one gets my vote! **8/10**

**Dougie:** As with most computer games based on a board game, this lacks something on the TV Screen. I still prefer to get out the board and sit in the middle of the room with the family. **7/10**




## DOUGIE'S RAVE OF THE MONTH

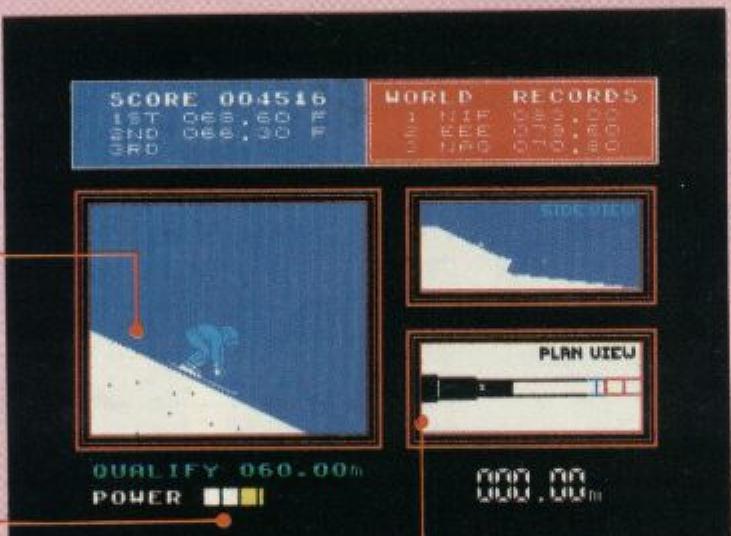



Each event has its own 'qualify' mark. You don't necessarily need to achieve this point to get into the next event, but if you *do*, it does mean you'll go with your full line up of athletes.

You can move out and up, but you can't move back in to hit your target, that means you've got to be accurate first time! There ain't no second chances in this event.

One advantage this has over *Hypersports* is the fact you start off with three men. This means that if you fail in one event, you can always get into the next event providing you have a man left.

You've only got two directional controls, so how does Daley work that one out? Well, it ain't too easy — the left button is used for moving left *and* right while the right-hand is used to move you up. It takes a lot of getting used to!




To do well in the Ski Jump, build up plenty of speed before launching yourself off into the cold air to gain the maximum jump possible. You'll need to go like fury on power buttons, and then take off as close to the edge as you dare.

Down here, at the bottom of most screens, you'll find this little power meter. This tells you just exactly how much effort you're putting into each event, which is quite important since this is directly related to the score you're going to get at the end.

Take care when landing — if you press the button too early then you'll take a tumble in the snow. Too low and you'll break those expensive skis on hire from Ocean.

These views show you the plan and side views of your jump. Use the top one to judge when you've got to prepare your landing, and the bottom one to estimate how far you are flying. Whoopee!

### DALEY THOMPSON'S SUPERTEST

**Ocean £6.95**

**Dougie:** you'll be really knackered when you get to grips with *D.T.'s Supertest*, it's a real test of skill and endurance not to mention the damage it does to your digits!

First off, comes the pistol shooting, where you'll need a quick eye and a fast hand to score enough points to qualify.

Next up is the Cycle Racing, where you compete against the clock. Actually, it's more of a test to see what gives in first, you, your fingers, or your poor ol' speccy!

When you've fully recovered from the cycling, you get the chance to go for a nice relaxing dip in the pool. Ha-ha, that'll be the day — you didn't think youd get in there for nothing did you? No, you have to turn somersaults and dive into the water without the slightest ripple.

You'd better dig out your thermal underwear for the next event as it gets pretty chilly on the Giant Slalom. Although you get 2 chances you'll probably spend more time on your backside than you will winging your way down the slopes!

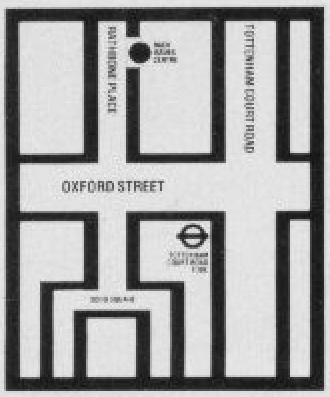
Day 2 sees you starting four new events. The rowing is another finger numbing exercise in stamina, and you'll have to beat the clock to qualify. You're also up against a computer opponent who's hard to beat.

Beat the Goalie, next. Well, you don't actually get to beat the goalie, you have to beat him at penalties. You can build up the power of your shot on the run up and at the last minute kick the ball at an angle to fool the goalie. (Tee-hee!)

Now you're for the high jump. Well actually, the Ski Jump, but they want you to jump high anyway! To get the best flight, build up your speed on the ramp, then just before the end, press the fire button to jump off into the clear blue yonder.

If you've any stamina left after all that, it's time to put your bulging biceps to the test in the tug-of-war. Once again your fingers bear the brunt of the bashing as you struggle to pull your way to victory. It's all pretty exhilerating stuff. **9/10**

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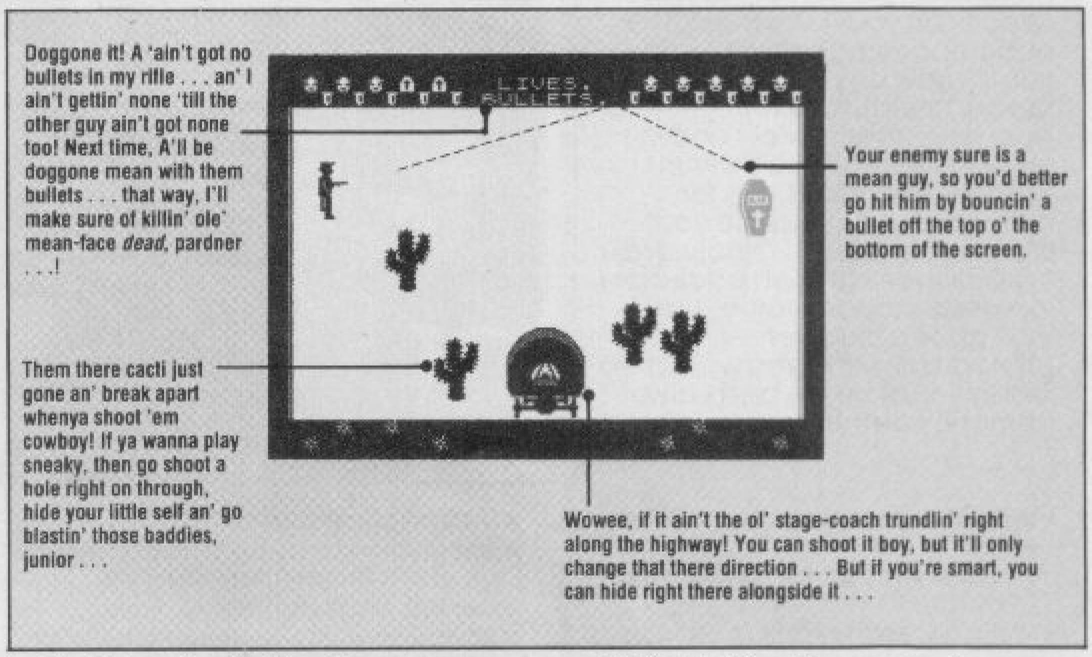
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# OPPORTUNITY KNOCKS

# SHOOT OUT

***Howdy pardner, it's doggone Opportunity Knocks time. Shootin' star* Alan Trevartha's *machine code revives the traditional shoot'em up down at the OK Corral. OK?***




Right, who said games are kids' stuff? Well, hold your horses, cowboy, 'cos this game's Billy the Kid's stuff! So, strap on your holster, load up your six-shooter and mosey on down to cactus canyon. And just take a look at the time. It's High Noon!

Yep, being quick on the draw is the name of the game, so start slinging that gun around. Your aim is to shoot down your opponent before he has a chance to pump you full of lead. Weave your way behind the cactus bushes and take cover behind the stagecoach or you'll end up in a coffin. Well, you don't want to die with your boots on!

*Shoot Out* is a two player game — well, where would Butch be without the Sundance Kid? — so you and your pardner will need to know the following control keys:

| | Blue | Red |
|---|---|---|
| Up | 1,2,3,4,5 | 6,7,8,9,0 |
| Down | Q,W,E,R,T | Y,U,I,O,P |
| Fire | Caps,Z,X,C,V | B,N,M,S/S,Space |

If you feel a Kempston joystick would be more akin to a six-shooter then you'll need to make these additions:

**Blue Player** — POKE 29620,0: POKE 29622,31: POKE 29623,201
**Red Player** — POKE 29660,0: POKE 29662,31: POKE 29663,201

Do I hear the sound of machine gun fire already? Nope, it's the clatter of the keys as the machine code goes into the Speccy. So, take a slug of red-eye and let that wagon roll. Yee-hah!

## WHO'S THAT A'KNOCKING

You've started to panic now, haven't you? You've only just realised that there are just three more places to go in the Opportunity Knocks compo — and then the door slams shut. Yep, we're already half way there and if you're megaprogram's not in, then time is slipping away. And with it goes your chance for fame and more importantly, a little fortune — here at *YS*, we pay *very* well for all programs that make it to the page. OK, so you won't be able to rush out and buy the Porsche straight away but discovery could be just around the corner.

We're looking for outstanding programs backed up by original ideas. The rest is up to you. Oh, and just remember that we would like to fit something else into the issue, so don't go way over the 5K limit.

And now you want to know who's doing the judging. Well, it's YOU! That's right, when all six entrants have been published, who'll be the *YS* Programmer of the Year? So, stop your slacking and start typing now!

## The Basic Loader

**You'll need this loader at the start of your master tape of *Shoot Out*. You should save it with SAVE "SHOOT OUT" LINE 9000.**

```
  10 LET win=USR 27720: LET L=US
R 29816
  20 IF win=1 THEN  PRINT AT 7,0
;"          The Red Gang
"
  30 IF win=2 THEN  PRINT AT 7,0
;"         The Blue Bunch
"
  40 PRINT ,,"   walk off in to
the sunset.   ",,"  Leaving the
 dying,bleeding   ",,"      bodi
es behind them.       "
  50 IF INKEY$<>"" THEN  GO TO 5
0
  60 PRINT  PAPER 2;AT 20,9;"Pre
ss Any Key.": IF INKEY$="" THEN
 GO TO 55
  70 FOR F=1 TO 10: LET L=USR 29
718: PRINT  PAPER 8; INK 9;AT 6+
RND*10,F*3;" ": LET L=USR 29697:
 PAUSE 1: NEXT F
  80 GO TO 10
9000 BORDER 0: PAPER 0: INK 6: C
LEAR 27720
9010 LOAD ""CODE
9020 POKE 23676,127
9030 FOR F=1 TO 10: LET L=USR 29
718: PRINT  PAPER 8; INK 9;AT 6+
RND*10,F*3;" ": LET L=USR 29697:
 PAUSE 1: NEXT F
9040 RUN
```

## The Hex Loader

**Use this Hex loader (or one from a previous issue that you've already saved) to type in the Hex code. Remember that you shouldn't leave spaces between the eight bytes of hex code as you enter them.**

```
   1 REM HEX Loader for Shoot Ou
t
   5 POKE 23658,8
   9 CLEAR 26999
  10 FOR i=27722 TO 27722+5046 S
TEP 8
  20 LET cs=0
  30 PRINT AT 0,0;"Address ";i
  40 INPUT "Hex 8 Bytes", LINE a
$
  60 IF LEN a$<>16 THEN  GO TO 1
000
  80 LET f=0: FOR j=1 TO 16
  90 IF (a$(j)<"0" OR a$(j)>"9")
 AND (a$(j)<"A" OR a$(j)>"F") TH
EN  LET f=1
 100 NEXT j
 105 IF f=1 THEN  GO TO 1000
 110 FOR n=0 TO 7
 120 LET y=CODE a$(1)-48: IF y>9
 THEN  LET y=y-7
 130 LET z=CODE a$(2)-48: IF z>9
 THEN  LET z=z-7
 140 LET va=16*y+z
 150 LET cs=cs+va
 160 POKE i+n,va
 165 PRINT AT 2,n*3;a$( TO 2)
 170 LET a$=a$(3 TO )
 180 NEXT n
 183 INPUT "Checksum "; LINE a$
 184 PRINT AT 2,25;a$
 185 IF VAL a$<>cs THEN  GO TO 1
000
 187 CLS
 190 NEXT i
 200 CLS : PRINT "SAVE CODE AFTE
R BASIC LOADER."'"REMOVE EAR LE
AD"
 210 SAVE "shootcode"CODE 27722,
5046
 220 CLS : PRINT "VERIFYING"
 230 VERIFY ""CODE
 240 CLS : PRINT "ALL OK": STOP
1000 PRINT AT 15,0;"ERROR": GO T
O 20
```

## The Hex Code

**Simply type this Hex code into the Hex Loader (no, the program, not the star of screen and back page!) and SAVE it as soon as it's all in. And don't come crying that you're all in after all that typing!**

```
27722 21 00 40 11 01 40 01 00 =180
27730 18 36 00 ED B0 36 46 01 =616
27738 00 03 ED B0 01 30 30 11 =530
27746 2C 78 3E 28 F5 C5 D5 CD =1126
27754 AA 22 D1 EB 01 13 00 ED =905
27762 B0 EB C1 F1 05 3D B7 20 =1126
27770 EB 01 58 AF 3E 5A F5 C5 =1093
27778 11 7C 76 3E 30 F5 C5 D5 =1024
27786 CD AA 22 D1 EB 01 09 00 =863
27794 ED B0 EB C1 F1 05 3D B7 =1331
27802 20 EB 01 E8 03 0B 78 B1 =811
27810 20 FB C1 F1 05 3D B7 20 =998
27818 D5 3E FE CD 01 16 21 BC =978
27826 6C 7E FE FF 28 3A D7 23 =1091
27834 18 F7 16 01 0B 10 05 9A =480
```

```
27842 9C 9E 9E A0 20 20 9E A2 =1016
27850 A0 16 02 0B 10 04 9B 9D =527
27858 9F 9F A1 20 20 9F A3 A1 =1026
27866 16 04 07 10 06 54 68 65 =344
27874 20 20 57 65 73 74 65 72 =698
27882 6E 20 20 47 61 6D 65 FF =807
27890 11 24 7B 01 18 80 3E 10 =407
27898 F5 C5 D5 CD AA 22 D1 EB =1508
27906 01 19 00 ED B0 EB C1 F1 =1108
27914 05 3D B7 20 EB 21 60 59 =734
27922 11 61 59 01 40 01 3A 78 =447
27930 5C E6 1C 1F 1F 77 ED B0 =944
27938 3A 78 5C E6 07 B7 CC 3A =952
27946 6D CD BF 02 FE 53 CA 11 =1063
27954 6F FE 44 CA C1 6D 18 D5 =1174
27962 21 58 6D 06 25 7E 23 C5 =631
27970 D7 C1 10 F9 3A 5D 6D 11 =950
27978 5D 6D 21 5E 6D 01 5F 00 =534
27986 ED B0 32 BB 6D C9 16 09 =991
27994 00 11 02 65 73 73 20 7E =508
28002 44 7E 20 74 6F 20 63 68 =688
28010 61 6E 67 65 20 64 69 66 =750
28018 66 69 63 75 6C 74 79 20 =800
28026 72 61 74 69 6E 67 20 2E =723
28034 2E 2E 2E 2E 2E 7F 41 2E =468
28042 48 2E 54 2E 20 31 39 38 =442
28050 35 20 2E 2E 2E 2E 2E 2E =361
28058 20 50 72 65 73 73 20 7E =715
28066 53 7E 20 74 6F 20 53 74 =699
28074 61 72 74 20 50 6C 61 79 =765
28082 20 2E 2E 2E 2E 2E 2E 20 =340
28090 50 72 3E 1E 32 4F EE 3E =715
28098 FE CD 01 16 21 00 40 11 =596
28106 01 40 01 00 18 36 00 ED =381
28114 B0 36 30 01 00 03 ED B0 =695
28122 CD 21 6E 11 2C 01 21 CB =643
28130 00 CD B5 03 3E 14 D7 3E =748
28138 01 D7 3A 32 6F C6 30 D7 =896
28146 3E 08 D7 CD BF 02 FE 0D =950
28154 CA 4A 6C FE 36 28 06 FE =992
28162 37 28 0F 18 EE 3A 32 6F =591
28170 FE 01 28 E7 3D 32 32 6F =798
28178 18 C9 3A 32 6F FE 09 28 =747
28186 DA 3C 32 32 6F 18 BC 21 =734
28194 2C 6E 7E FE FF C8 D7 23 =1239
28202 18 F8 16 00 0B 10 05 9A =480
28210 9C 9E 9E A0 20 20 9E A2 =1016
28218 A0 16 01 0B 10 04 9B 9D =526
28226 9F 9F A1 20 20 9F A3 A1 =1026
28234 10 01 0D 0D 11 06 54 68 =254
28242 65 20 42 75 6C 6C 65 74 =749
28250 20 53 70 65 65 64 20 63 =660
28258 61 6E 20 62 65 20 76 61 =685
28266 72 69 65 64 0D 0D 69 6E =661
28274 20 74 68 65 20 67 61 6D =694
28282 65 2E 0D 0D 0D 53 70 65 =482
28290 65 64 3A 31 20 5B 53 4C =590
28298 4F 57 5D 0D 20 20 20 20 =400
28306 20 20 7C 0D 20 20 20 20 =329
28314 20 20 35 20 5B 46 41 53 =458
28322 54 5D 0D 20 20 20 20 20 =350
28330 20 7C 0D 20 20 20 20 20 =329
28338 20 39 20 5B 4D 41 43 48 =493
28346 49 4E 45 20 47 55 4E 20 =518
28354 21 5D 0D 10 02 50 72 65 =452
28362 73 73 20 37 20 74 6F 20 =608
28370 49 6E 63 72 65 61 73 65 =810
28378 0D 20 20 20 20 20 20 36 =259
28386 20 74 6F 20 44 65 63 72 =673
28394 65 61 73 65 0D 20 20 45 =560
28402 4E 54 45 52 20 74 6F 20 =604
28410 46 69 6E 69 73 68 2E 0D =668
28418 0D 10 00 50 72 65 73 65 =540
28426 6E 74 6C 79 20 3A FF 3E =862
28434 05 32 B1 74 32 B2 74 CD =897
28442 38 74 CD 95 6F CD DD 6F =1174
28450 CD 78 74 CD B3 74 CD 45 =1215
28458 6F CD E7 70 CD 98 71 06 =1135
28466 03 C5 CD 7C 72 DC 33 75 =1031
28474 CD 29 73 DC 5C 75 C1 10 =999
28482 F0 18 E0 3A 93 6F 47 0E =889
28490 68 11 BC 7C 3E 30 F5 C5 =985
28498 D5 CD AA 22 D1 EB 01 06 =1073
28506 00 ED B0 EB C1 F1 05 3D =1148
28514 B7 20 EB 3A 78 5C B7 20 =935
28522 08 3A 94 6F ED 44 32 94 =828
28530 6F 3A 94 6F FE 01 28 0D =736
28538 3A 93 6F FE 2F 28 11 3D =735
28546 32 93 6F 18 0B 3A 93 6F =659
28554 FE 9F 28 04 3C 32 93 6F =825
28562 C9 9B 01 0E 30 CD A6 6F =901
28570 0E 48 CD A6 6F 0E A0 CD =947
28578 A6 6F 0E B8 76 2A 78 5C =847
28586 26 20 7E E6 7F C6 1F 47 =853
28594 11 DC 7D 3E 20 F5 C5 D5 =1111
28602 CD AA 22 D1 EB 01 03 00 =857
28610 ED B0 EB C1 F1 05 3D B7 =1331
28618 20 EB 21 00 40 11 1F 00 =412
28626 06 C0 36 A0 19 36 05 23 =531
28634 10 F8 C9 3E FE CD 01 16 =1009
28642 AF 32 6B 5C CD 7A 70 16 =885
28650 00 00 20 95 20 95 20 95 =543
28658 20 95 20 95 20 20 20 4C =534
28666 49 56 45 53 2E 20 20 20 =453
28674 95 20 95 20 95 20 95 20 =724
28682 95 20 97 20 97 20 97 20 =730
28690 97 20 97 20 97 20 42 55 =700
28698 4C 4C 45 54 53 2E 20 97 =617
28706 20 97 20 97 20 97 20 97 =732
28714 20 97 16 16 00 20 20 20 =323
28722 98 20 20 98 20 20 20 20 =496
28730 9A 9C 9E 9E A0 20 20 9E =1008
28738 A2 A0 20 20 20 20 98 20 =634
28746 20 20 20 20 20 20 98 20 =376
28754 20 20 20 20 20 20 98 20 =376
28762 9B 9D 9F 9F A1 20 20 9F =1014
28770 A3 A1 20 20 98 20 20 20 =636
28778 20 20 20 98 20 16 0A 00 =312
28786 FF 3E 02 32 6B 5C 18 0A =602
28794 E1 7E 23 E5 FE FF C8 D7 =1539
28802 18 F6 21 00 58 11 01 58 =497
28810 01 3F 00 36 46 ED B0 3E =663
28818 14 21 C7 70 01 20 00 ED =634
28826 B0 3D B7 20 F4 21 C0 5A =1011
28834 11 C1 5A 01 40 00 36 06 =425
28842 ED B0 21 CB 5A 11 CC 5A =1050
28850 01 09 00 36 05 ED B0 21 =515
28858 EB 5A 11 EC 5A 01 09 00 =676
28866 36 04 ED B0 C9 31 31 31 =819
28874 31 30 30 34 34 34 34 34 =405
28882 34 30 30 30 30 30 30 30 =388
28890 30 34 34 34 34 34 34 30 =408
28898 30 32 32 32 32 CD B1 73 =745
28906 CB 67 C4 57 72 CD B1 73 =1200
28914 CD 57 28 20 3A 97 71 B7 =867
28922 28 06 3D 32 97 71 18 14 =465
28930 3A 96 71 FE 9F 28 0D 3C =847
28938 32 96 71 11 28 00 21 28 =443
28946 00 CD B5 03 CD B1 73 CB =1089
28954 5F 28 21 3A 97 71 FE 04 =748
28962 28 06 3C 32 97 71 18 14 =464
28970 3A 96 71 FE 1F 28 0D 3D =720
28978 32 96 71 11 28 00 21 28 =443
28986 00 CD B5 03 21 3C 7E 3A =666
28994 96 71 A7 17 17 17 17 E6 =752
29002 60 16 00 5F 19 EB 0E 10 =503
29010 3A 96 71 47 3E 20 F5 C5 =928
29018 D5 CD AA 22 D1 1A 13 77 =995
29026 C1 F1 05 3D B7 20 EF 3A =1012
29034 97 71 A7 17 17 17 E6 38 =786
29042 21 58 7F 16 00 5F 19 EB =625
29050 0E 18 3A 96 71 C6 F9 47 =877
29058 3E 08 F5 C5 D5 CD AA 22 =1134
29066 D1 1A 77 13 C1 F1 05 3D =873
29074 B7 20 EF C9 50 02 CD D9 =1159
29082 73 CB 67 C4 04 73 CD D9 =1158
29090 73 CB 57 28 20 3A 56 72 =735
29098 B7 28 06 3D 32 56 72 18 =564
29106 14 3A 55 72 FE 9F 28 0D =743
29114 3C 32 55 72 11 28 00 21 =399
29122 3C 00 CD B5 03 CD D9 73 =986
29130 CB 5F 28 21 3A 56 72 FE =883
29138 04 28 06 3C 32 56 72 18 =384
29146 14 3A 55 72 FE 1F 28 0D =615
29154 3D 32 55 72 11 28 00 21 =400
29162 3C 00 CD B5 03 21 3C 7E =668
29170 3A 55 72 A7 17 17 17 17 =516
29178 E6 60 16 00 5F 19 EB 0E =717
29186 E8 3A 55 72 47 3E 20 F5 =899
29194 C5 D5 CD AA 22 D1 1A 13 =1073
29202 06 08 1F CB 11 10 FB 71 =645
29210 C1 F1 05 3D B7 20 EB 3A =1005
29218 56 72 A7 17 17 17 E6 38 =722
29226 21 58 7F 16 00 5F 19 EB =625
29234 0E E0 3A 55 72 C6 F9 47 =1013
29242 3E 08 F5 C5 D5 CD AA 22 =1134
29250 D1 1A 06 08 1F CB 11 10 =516
29258 FB 71 13 C1 F1 05 3D B7 =1066
29266 20 EB C9 50 00 3A 00 73 =718
29274 B7 C0 3A 03 73 B7 CB 3D =995
29282 32 03 73 3A 96 71 C6 F5 =932
29290 32 01 73 3E 1E 32 00 73 =423
29298 3A 97 71 32 02 73 CD 16 =716
29306 74 C9 3A 00 73 B7 28 7A =835
29314 ED 4B 00 73 CD AA 22 3C =896
29322 47 3E 7F A7 1F 10 FD A6 =893
29330 77 3A 00 73 3C 3C 32 00 =462
29338 73 3A 01 73 47 3A 02 73 =535
29346 FE 02 28 0F 30 07 04 B7 =553
29354 20 09 04 18 06 05 FE 04 =338
29362 20 01 05 78 32 01 73 FE =578
29370 02 30 0A 3A 02 73 47 3E =368
29378 04 90 32 02 73 3A 01 73 =489
29386 FE 9D 38 0A 3A 02 73 47 =723
29394 32 04 90 32 02 73 ED 4B =689
29402 00 73 CD AA 22 3C 47 3E =717
29410 80 37 1F 10 FD A6 B7 20 =864
29418 13 ED 4B 00 73 CD AA 22 =855
29426 3C 47 3E 80 37 1F 10 FD =676
29434 B6 77 A7 C9 37 C9 00 45 =994
29442 02 05 3A AD 73 B7 C0 3A =786
29450 B0 73 B7 C8 3D 32 B0 73 =1076
29458 3A 55 72 C6 F5 32 AE 73 =1039
29466 3E E0 32 AD 73 3A 56 72 =882
29474 32 AF 73 CD 16 74 C9 3A =942
29482 AD 73 B7 28 7A ED 4B AD =1118
29490 73 CD AA 22 3C 47 3E 7F =844
29498 A7 1F 10 FD A6 77 3A AD =983
29506 73 3D 3D 32 AD 73 3A AE =807
29514 73 47 3A AF 73 FE 02 28 =830
29522 0F 30 07 04 B7 20 09 04 =302
29530 18 06 05 FE 04 20 01 05 =331
29538 78 32 AE 73 FE 02 30 0A =773
29546 3A AF 73 47 3E 04 90 32 =679
29554 AF 73 3A AE 73 FE 9D 38 =1104
29562 0A 3A AF 73 47 3E 04 90 =639
29570 32 AF 73 ED 4B AD 73 CD =1145
29578 AA 22 3C 47 3E 80 37 1F =611
29586 10 FD A6 B7 20 13 ED 4B =981
29594 AD 73 CD AA 22 3C 47 3E =890
29602 80 37 1F 10 FD B6 77 A7 =951
29610 C9 37 C9 00 00 00 06 06 =469
29618 00 3E F7 DB FE E6 1F FE =1297
29626 1F 28 02 CB D0 3E FB DB =1016
29634 FE E6 1F FE 1F 28 02 CB =1045
29642 D8 3E FE DB FE E6 1F FE =1520
29650 1F 28 02 CB E0 78 C9 06 =827
29658 00 3E EF DB FE E6 1F FE =1289
29666 1F 28 02 CB D0 3E DF DB =988
29674 FE E6 1F FE 1F 28 02 CB =1045
29682 D8 3E 7F DB FE E6 1F FE =1393
29690 1F 28 02 CB E0 78 C9 F3 =1064
29698 11 0A 00 21 F4 01 06 96 =461
29706 C5 E5 CD B5 03 E1 C1 2C =1277
29714 10 F6 FB C9 3A 48 5C 1F =967
29722 1F 1F E6 07 57 21 F4 01 =664
29730 01 C8 00 7E E6 10 B2 D3 =914
29738 FE C5 06 1E 10 FE C1 0B =961
29746 23 78 B1 20 EE C9 AF 32 =1028
29754 97 71 32 56 72 32 00 73 =679
29762 32 01 73 32 02 73 32 AF =558
29770 73 32 AE 73 32 AD 73 3C =852
29778 32 94 6F 3E 06 32 03 73 =545
29786 32 B0 73 3E 50 32 96 71 =796
29794 32 55 72 3E 58 32 93 6F =707
29802 21 00 40 11 01 40 01 00 =180
29810 18 36 00 ED B0 C9 3A B1 =927
29818 74 B7 C6 01 FE 0B 28 12 =773
29826 F5 3E 16 D7 3E 00 D7 F1 =1062
29834 D7 F5 3E 96 D7 F1 3C 3C =1248
29842 18 EA 3A B2 74 B7 47 3E =878
29850 1E 90 FE 14 C8 F5 3E 16 =977
29858 D7 3E 00 D7 F1 D7 F5 3E =1255
29866 96 D7 F1 3D 3D 18 E6 05 =992
29874 00 CD EF 74 3A 03 73 B7 =919
29882 C0 3A B0 73 B7 C0 3A 00 =974
29890 73 B7 C0 3A AD 73 B7 C0 =1211
29898 3C 32 03 73 32 B0 73 F5 =814
29906 11 28 00 21 64 00 06 32 =246
29914 2D E5 D5 C5 CD B5 03 C1 =1266
29922 D1 E1 10 F4 CD EF 74 F1 =1495
29930 FE 06 20 DC C9 3E 16 D7 =1012
29938 3E 01 D7 AF D7 3A 03 73 =844
29946 06 06 F5 C5 FE 06 3E 97 =927
29954 30 02 3E 20 D7 3E 20 D7 =668
29962 C1 F1 3C 10 ED 3E 16 D7 =1046
29970 3E 01 D7 3E 14 D7 3A B0 =809
29978 73 06 06 3D F5 C5 FE 80 =1012
29986 F5 3E 20 D7 F1 3E 97 38 =1064
29994 02 3E 20 57 C1 F1 10 EB =996
30002 C9 CD 62 76 CD 01 74 3A =1002
30010 01 73 47 3A 00 73 21 00 =393
30018 73 36 00 FE 60 38 44 FE =897
30026 98 38 37 FE D0 38 3C FE =1095
30034 F0 DA EA 75 21 00 73 36 =1011
30042 00 C9 CD 62 76 CD 01 74 =944
30050 3A AE 73 47 3A AD 73 21 =797
30058 AD 73 36 00 FE A0 30 1B =831
30066 FE 68 30 0E FE 30 30 13 =789
30074 FE 10 30 27 21 AD 73 36 =732
30082 00 C9 3A 94 6F ED 44 32 =873
30090 94 6F C9 4F 04 3E 04 F5 =854
30098 C5 CD AA 22 36 00 C1 F1 =1094
30106 05 08 78 B7 C8 08 3D B7 =768
30114 20 ED C9 3A 96 71 47 0E =876
30122 10 11 FC 7E 3E 20 F5 C5 =947
30130 D5 CD AA 22 D1 EB 01 02 =1069
30138 00 ED B0 EB D5 11 0A 00 =888
30146 21 B4 03 CD B5 03 D1 C1 =959
30154 F1 05 3D B7 20 E0 3A 96 =954
30162 71 47 0E 10 CD 2F 76 E1 =809
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32762 FE 16 0F 03 03 00 00 00 =297
32770 00 00 00 00 00 00 00 00 =0
32778 00 00 00 00 00 00 00 00 =0
```

# THE END OF

**Single Letter Keyword Entry ...**
**Three Character Fonts ...**
**Three Character Sizes ...**
**QL-Style Windows ...**
**Named Procedures ...**
**Stippled Characters ...**
**64 Column Text ...**
**Sprites Galore ...**
**... Upgrade Your Spectrum To A MegaSpectrum—NOW!**

# ONLY £9.95!




It all began with the ZX80 ...the first personal computer retailing for under £100. Next, Sinclair Research announced the ZX81, offering memory expansion to 16K. Completing the ZX series of micros came the Spectrum and its big brother, the Spectrum+.

Although the hardware has been modified extensively, not much thought has been given to ZX Basic ... and, compared to Basics on many other home computers, ZX Basic is sadly lacking!

Until now, that is! *Your Spectrum* is proud to offer your Spectrum the opportunity to transform itself into a MegaSpectrum. All it needs is *YS MegaBasic* — the inexpensive miracle on cassette.

## Professional Computing Power — On A Spectrum

Incorporating many of the best features of Basics found on some of the Spectrum's major rivals (such as the BBC Micro, CBM 64 and Amstrad computers), *YS MegaBasic* gives you the opportunity to unleash power normally associated with machine code!

The program itself uses 19K of RAM, leaving you with 22K to write your own *YS MegaBasic* programs. It may seem as though you've lost a lot of memory, but you'll find you don't need so much code to create on-screen effects with *YS MegaBasic*. Anyway, when was the last time you wrote a program larger than 22K?

## At Last! A Real Keyword Entry System

If you've ever suffered from cramp when you're playing double-octaves over the Spectrum's keyboard accessing some of those 'hard-to-get-at' commands ... then despair no longer.

*YS MegaBasic* incorporates a *real* single-letter keyword entry system. And before you start thinking this is going to mean more typing, *YS MegaBasic* allows most commands to be abbreviated. For example, you'd type 'RA.' instead of 'RANDOMISE'.



**The man behind *YS MegaBasic* — Mike Leaman.**

## KEY FEATURES OF YS MEGABASIC

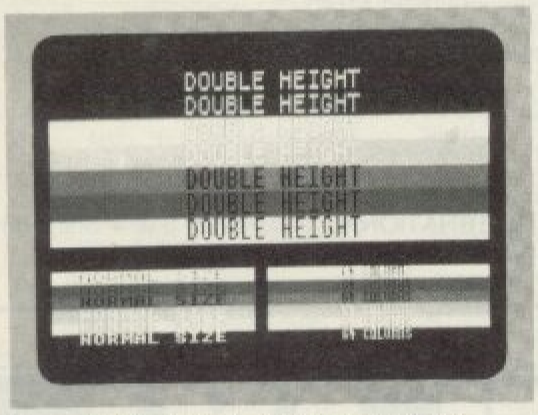
- *An extended command set. **YS MegaBasic** recognises over 35 new commands, which allow you to access the new features available as well as providing the opportunity to make more of the commands in standard ZX Basic.*
- *64 columns of text. Useful for wordprocessing and database applications.*
- *Three character sizes. Using **YS MegaBasic**, you've now the choice of accessing double-height, standard and half-width characters.*
- *Three character fonts. **YS MegaBasic** offers three font styles which allow your Spectrum to mimic other machines on the market.*
- *Windows. You can manage up to six QL-style windows on-screen at any one time.*
- *Sprites. Using the free **Sprite Designer** package that accompanies each copy of **YS MegaBasic**, you'll be able to design and manipulate up to ten sprites on-screen at once!*
- *Enhanced sound. Mike Leaman's taken the Spectrum's BEEP command and given it the full Mega-treatment.*
- *Procedures. Structure your programs and define new commands — it's all here!*
- *Stippled characters. QL-style stipples allow you to mix colours on-screen to give interesting colour effects.*

# ZX BASIC?

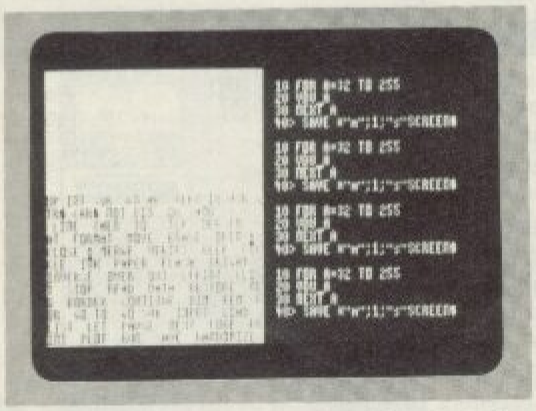
### Sprite Designer — Free With Each Copy Of YS MegaBasic!

Included in the *YS MegaBasic* package, you'll find a special utility program called *Sprite Designer.* Written by Mike Leaman in *YS MegaBasic*, this 11K program is designed to help you create sprites on the Spectrum.

You can have up to ten sprites on-screen at any one time, but if you're careful with memory you can get more!




**Here, *YS MegaBasic* is showing off its multifarious character sizes and fonts. Each window contains text in three different sizes: double height, normal height and that used for 64-columns; double height and standard text can be output in three different fonts.**



**The screen format for the input/output of *YS MegaBasic*. Three windows are provided for input, LISTing and RUNning programs; under software control, each window's size and purpose can be changed to suit individual requirements.**

## YS MegaBasic
***Available only by mail order and only from***
## Your Spectrum

**Your Spectrum, YS MegaBasic** Offer, Sportscene Specialist Press, 14 Rathbone Place, London W1P 1DE.

# YS MEGABASIC PRIORITY ORDER FORM

Thousands of clever *YS* readers have now upgraded their Spectrums to the status of MegaSpectrums with a copy of *YS MegaBasic.* But there are still plenty of you who can't quite believe the claims we've made for the program. Well, you don't have to take our word for it, listen to **Tony Wise** a reader from North Yorkshire. "Mike Leaman deserves a knighthood for *YS MegaBasic.* It must stand as the classic Speccy program of all time." Need we say more?

### How To Order MegaBasic

Just complete the order form below (or a photocopy) and send it off to *Your Spectrum, YS MegaBasic Offer, Sportscene Specialist Press, 14 Rathbone Place, London W1P 1DE.* For each copy you'll need to enclose a cheque/Postal Order for £9.95 made payable to Sportscene Specialist Press. We won't give up until a new name makes it to the birthday honours list — arise Sir Michael Leaman!

| QTY | ITEM | PRICE | P&P | TOTAL |
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| .... | YS MEGABASIC | £9.95 | 45p | .... |

I enclose a cheque/Postal Order for £..........., made payable to Sportscene Specialist Press.

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# INPUT OUTPUT

## THE FREE YS CLASSIFIED AD SERVICE

**Are you on the hunt for hardware, screaming for software, or pining for a pen pal? Whatever your message, you can leave it here for free! Just fill in the form below.**

## SOFTWARE

■ Will swop *Doomdark's Revenge* or any two of *Airwolf, Beach Head, Cyclone, TLL, Timegate, Harrier Attack* or *Night Gunner* for *Underwurlde*. Write to Plod, 34 Arnside, Stapleford, Notts NG9 7EY.

■ Swop *Underwurlde* and *Zip-Zap* for *Shadowfire*. Write to Douglas Hare, 57 Bradford Avenue, Cleethorpes, S. Humberside DN35 0BQ. Tel. Cleethorpes 603 003 anytime after 4pm.

■ Will swop *Alien 8* or *Lords of Midnight* for *Knightlore* or *Sabre Wulf*. Must be in good condition. First come, first served. Tel. St Albans 69460 after 8 pm and ask for Tony.

■ Swop software with me. Send your list for mine. Over 200 games to choose from — many new releases. Write to Daren Stevens, 8 Windmill Road, Southwick, Brighton BN4 4RP.

■ I have over 200 games to swop including *Cyclone, Match Day, Turmoil, Underwurlde, Pyjamarama, Kong Strikes Back*. Send your list for mine. Write to Luis Fernando, Apartado 57, 4465 S. Mamede Infesta, Portugal.

■ I have nearly 200 games to swop (many recent titles). Send me your list. Write to James McMullen, 8 Woodview, Pinecroft Grange, Douglas, Co. Cork, Ireland.

■ Wish to swop any five of following: *Ghostbusters, Alien 8, TLL, Fighter Pilot, Atic Atac, Ant Attack, World Cup, Scuba Dive, Harrier Attack, S. D's. Snooker, Tir Na Nog* for *Quill* and *Illustrator*. Write to Maurice Hartery, 39 St Johns Terrace, Carrick-On-Suir, Co. Tipperary, Eire.

■ Swop *Airwolf, Daley's Decathlon, Beach Head* for *Raid Over Moscow, Skool Daze* and *Match Day* (will swop separately). Tel. Worcester 358941 and ask for Gareth, after school hours please!

■ Swop *Airwolf, Pyjamarama, Gift From The Gods, Cyclone, Booty, Splat!* and *Strange Loop* for *Alien 8, Fall Guy* and/or *Blockbusters* and *Psytron*. Tel. 031-336 3577 and ask for Graeme after 6 pm.

■ Lots of games to swop. Titles include *Skool Daze & 3D Starstrike* + many more. I particularly want *Brian Bloodaxe* — but anything will do! Tel. 01-948 7945 and ask for Michael.

■ Swop *Magic Carpet, Hungry Horace, Airwolf, Tranz Am, Trashman*, and Quicksilva's *Games Designer* for Currah MicroSpeech with manuals. Tel. 01-804 0579 and ask for Ian Walker.

■ Will swop *Booty, Manic Miner* or *Chuckie Egg* for *Blockbusters, Pyjamarama* or *Match Day*. Write to Gareth Morgan, 68 Hereford Road, Monmouth, Gwent NP5 3HJ.

■ Swop Ocean's *Kong, Atic Atac* and *Voyage into Unknown* for *Pheonix* and *Automania*. Write to Stephen Murray, 194 Skegoneill Avenue, Belfast, BT15 3JW, N. Ireland. (All originals please).

■ Swop *Brian Bloodaxe, Strange Loop, HURG* and *Finders Keepers* for *Shadowfire*. Tel. (0749) 72423 and ask for Matthew after 6 pm.

■ Swop *Scrabble* for *Bruce Lee, Lunar Jetman* and *Hunchback* for *Fred* or *Gremlins*. Also *Fall Guy* for *Blue Thunder*. Tel. 061.436 4703 and ask for Paul.

■ Swop *Lords of Midnight* for *Quill* (both originals) for any Level 9 or Artic adventures (originals please!). Tel. Chepstow 3859 and ask for Simon Hughes after 4 pm.

■ I have over 300 of the latest programs to swop. Send your list! Write to Maurice Boot, Acacialaan 1, Bergen of Zoom, Holland 4621 EW.

■ Will swop my programs for Pascal, Forth, etc. Send your list for mine. John Boere, Ramsesdreef 215, 3564 CL Utrecht, The Netherlands.

■ Many games to swop including *Knightlore, Gift from the Gods, Doomdark's Revenge, Fighter Pilot*. Write to M. Allan Edginton, 2 Langton Villas, Hampden Road, London N17.

■ I have over 300 games and would like to swop some of them. I have all the latest ones like *Rocky Horror Show, Minder, Starion*. Tel. 091-775 588 and ask for Nigel between 6 pm-8 pm.

■ Swop *Dun Darach, Knightlore, Underwurlde, Spy Hunter* and *Tapper* for the *Blast* compiler or Hisoft Pascal or *Quill*. Can also offer *Fighter Pilot* and *Jonah B's Squash*. Write to Mijay Srinivasan, 95 Navijiwan Vihar, New Delhi 110017, India.

■ I have *VU-3D* and *Make-A-Chip*. Both unused, will swop for *Booty, Short Fuse, Jasper, UGH!* Tel. 01-748 9076 and ask for Jamie.

■ Swop any two of *Starion, Knightlore, Underwurlde, Codename Mat* for two of *Shadowfire, Monty Mole, Sherlock, Gift from Gods*. Write to A. Houston, 10 Howburn Place, Aberdeen AB1 2XX.

■ Send your list for mine. Guaranteed reply. Over 100 titles including *Match Day, Ghostbusters* and lots more. Write to Daniel Stuchfield, Hawthorn House, Bolton, Nr. Appleby, Cumbria CA16 6AW.

■ Will swop *Dun Darach, Cyber Rats, Hyper Action, Zzoom, Nodes of Yesod, Troon Golf* and for the ZX81, *Flight Simulator, Avenger* and more for any decent software. Tel. Leeds 587781 and ask for John after 5 pm.

■ Swop any one of *Beach Head, Match Point, Full Throttle, Steve Davis Snooker, Air Traffic Control, Combat Lynx* and *Sports Hero* for any one of *Run For Gold, Alien 8, Grand National, The Hobbit, Knightlore, Minder, Match Day*. Write to N.P. Wilmore, 61 Claygate Road, Dorking, Surrey RH4 2PS.

■ Over 200 Spectrum games to swop. Send your list for mine with an sae to Gary Byrne, 22 Buckfast Close, Bootle, Merseyside L30 5QT.

■ Will swop *Bruce Lee, Backpackers, Hulk, Technician Ted, Chess Driller Tanks, Gangsters* of *Mission 1*. Any four for *Quill* and/or *Illustrator*. Write to Paul Bocij, 86 Crew Street, Normanton, Derby DE3 8PQ.

■ £150 worth of software (arcade, adventure and utility). Will swop for Interface 1 and Microdrive or Triton Quickdisc. Tel. Gravesend 66197 and ask for Steve.

■ Swop 100 games for Microdrive — must work! Send letter for more information. Ricardo Pereira, Urb Dos Campos Verdes, No. 36 Ric Esq. Moreira, Maia, Portugal 4470.

■ Software to swop? You name it, I've got it. Nearly 100 titles — your list for mine. Send sae please. Also ZX Printer cheap. A.B. Murray, Saumarez Block, HMS Nelson, Portsmouth, Hants.

■ Spectrum software? Write to Kevin Wallace, 30 Rufford Road, Edwinstrowe, Mansfield, Notts NG21 GHY.

■ Spectrum owners! I have a large selection of software to swop — my list for yours. Write to Graham Hinds, c/o 15 Ridge Road, Hillcrest 3610, Natal, South Africa.

■ Over seventy original tapes (games, utilities, etc.), for swop. Your list for mine. Glenn Robinson, 20 Wasdale Close, Cramlington, Northumberland. Tel. Cramlington 715160.

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■ Send your software list for mine. Please enclose sae. Write to John O'Neill, 106 Balmore Drive, Hamilton, Scotland, ML3 8BU.

■ Will swop *Penetrator, Mined Out* and *Flight Simulation* (Psion) for The Complete Spectrum ROM Disassembly. Tel. 061-724 6048 and ask for Pete.

■ I have many new software titles to swop. Write to Quentin Lefeure, 51 Koning Albert-Straat, 1600 Sint-Pieters, Leuw, Belgium.

■ Swop Software — send me your list. I have over 300 games. Write to Jani Meri, Kalevanpuisto 7Hc, 28120 Pori, Finland.

■ Swop *Runes of Zendos* or *Twin Kingdom Valley* for *Out of The Shadows*. Originals only. Tel. Southend-on-Sea 521 801 and ask for Colin after 5 pm.

■ Hello UK! Swop new super games with me. I have 500 titles. Send your list to Dario Zani, Abulundsgatan, Sweden.

■ Spectrum software to swop. Many top games, send your list for mine. John Wilson, 38 Ryedale Way, Selby, Yorks.

■ Spectrum software to swop. Send your list for mine. I have over 220 titles. Write to Andy McKenna, 7 Attlee Avenue, Linnvale, Clydebank, Dunbartonshire, Scotland G81 2SB.

■ Swop software. Send your list for mine. Will give 7+ programs for light pen, printer adn/or Microdrive. All replies answered. 480 titles to choose from. Brian Griffiths, 74 Malpas Road, Newport, Gwent (many new ones).

■ Swop £180 of software and some magazines for Alphacom 32 printer or Microdrive and Interface 1. Software includes *Match Day, D.T's Decathlon, Match Point* and many others. Tel. (0703) 734549 and ask for Tim.

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■ Have 200 games; utility, education, business. Will swop with anyone who lives in Reading. Tel. Reading 29611 and ask for Des.

■ Swop BBC 'B' software for Spectrum software. Tel. 01-669 4477 ext 328 and ask for Tony Pollard during office hours.

## HARDWARE

■ Stonechip programmable joystick Interface to swop for Cheetah Data Recorder or Cheetah RAT. Also software to swop, includng *Gift from the GodsCyclone, Full Throttle, Quill*, etc. Tel. (0977) 433677 and ask for A Mountain.

■ York CB rig for sale, model number JCB863, includes SWR, aerial and transformer. £80. Tel. Iver 652744 and ask for David.

■ 48K Spectrum, Interface 2 + Microdrive, *MegaBasic*, assembler, etc. + many books. £160. Tel. Winsford (06065) 3017 and ask for H Smith.

■ 48K Spectrum Lo-Profile keyboard, cassette recorder, Alphacom 32 printer, Stonechip programmable interface and Quickshot joystick. Many games, books and magazines. £250 ono. Tel. (0207) 521995.

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■ 48K Spectrum, Interface II + joystick, 270 top games worth over £1000, magazines, books — including 24 issues of Sinclair User, Nos. 7-17 of *YS*. Paid £350 for it, will sell for £180 ono. Tel. (0633) 892158 after 4pm, buyer collects.

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■ KDC WP550 D. Wheel printer, worth £400+, will sell or swop with Kempstston, Speech Synth, etc., plus software. Offers? Robert Hammond, 70 Holywell Close, Cove, Farnborough, Hampshire GU14 8TT.

■ 48K Spectrum, Fox Electronics keyboard, joystick + interface, cassette recorder, original software worth £200, books, magazines. Worth over £475! All offers considered. Tel. (0707) 336308 and ask for Nigel after 4 pm. Will deliver.

■ For sale. Dk Tronics light pen. Good condition, £13 ono. Tel. 061-224 7158 and ask for Robert.

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■ Sinclair ZX Spectrum with RAM Turbo and Interface II. Lots of software, books, mags, etc. Worth over £400, sell for £170. Tel. (0978) 757817 and ask for Richard.

■ DkTronics light pen. Unused, £12, or exchange for MicroSpeech. Tel. (0535) 52836 and ask for J Fairclough.

■ Viscount disc drive + interface for Spectrum. Cost £256, no reasonable offer refused. Tel. 01-435 1915 and ask for F.E. Norton.

■ Stack Light Rifle (good condition) £29 ono. Tel. (0865) 240691 and ask for Stuart after 4.30 pm.

■ Currah MicroSpeech and original of *Rocky* for sale. Worth £38, sell for £25 ono. Tel. 01-204 9793 and ask for Paul after 4 pm.

■ For sale. Speccy 'Ricoll' keyboard £10. Tandy MC10 Color Computer (USA model) £10. Mitsubishi colour TV 18" £60. Tel. Romford 46948 and ask for Steve Freedman.

■ Currah MicroSpeech for sale + *Zaxxon* — both for £24. Tel. (0202) 886627 and ask for Chris.

■ Swop software 10 plus for light pen and/or printer. Also send sae for software swops. B. Griffiths, 74 Malpas Road, Newport, Gwent. Tel. (0633) 857685.

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■ Prism VTX 5000 modem, will pay £25 to £35, depends on condition. Write to Ian, 2 Milburn Street, Workington, Cumbria CA14 2XP.

■ Would like hints and POKEs on any old or new games. I will exchange for any hints and POKEs I have. David Bell, 97A Fort Street, Broughty Ferry, Dundee DD5 1DY.

■ *YS* issues 2, 3, 4, 6 and 7. Will pay £1.50 each. Tel. (0506) 843515 or write to Mrs Burgess, 31 Braehead Drive, Linlithgow EH49 6EG.

■ I have 600 new programs. Swop Currah MicroSpeech, light pen or joystick interface + joystick for 15 of them. Jose A. Suarez Marquez, Vazquez Varela 19-30B, Vigo-4, Pontevedra, Spain.

■ *Zeus* asembler and/or printer, will swop for new originals like *The Artist, Baseball, Supercode 3, Shadowfire, Gyron, Gremlins, Komplex* to name but a few . . . Tel. 01-521 5978 and ask for Keith. I'm in most days.

■ Wanted, Quickshot II + programmable interface. Swop for Currah Speech. Loads of software to swop — send list. Geoffrey Inns, 26 Bowyer Close, Basingstoke, Hants RG21 1UZ.

■ Can anyone send me the fitting instructions for the Gizmo, *Tele-Sound,* or the new address of Compu-Sound, Langley Close, Redditch? Tel. 041-774 3313 and ask for John.

■ Wanted — issues 2, 3 and 6 of *YS,* in good condition (complete). Tel. Bishop Auckland 603 533 and ask for Philip.

■ Wanted — *YS* issue 4 in good condition. Will pay good price. Tel. Gravesend 61218 and ask for Steve after 5 pm.

■ Please help! Advice needed to convert taped programs to Microdrive, please write to Carl Murphy, 87 Selwyn Street, Kirkdale, Liverpool L4 3TN.

■ Will swop French Computing and Electronics books (hard to find in UK) for British ones. Send your list for mine. Patrick Gueulle, BP 279 F 76055, Le Havre, Cedex, France.

■ Help! Free game for the first person who can provide a listing stopping the distortion of the Screen$ with the normal 'Start tape, press any key' message. Write to Mark Le-May, 45 Liverpool Road, Fratton, Portsmouth, Hants PO1 5DY.

■ Hardware wanted in good condition with leads and manuals. Will give at least 50 titles for anything offered. Write to Gerard Cahill, 22 Church Drive, Clarecastle, Co Clarke, Ireland.

■ Wanted, Microdrive and Interface 1. Also need printer. Will swop various pieces of hardware and software for the above items. Tel. (0501) 41528.

■ Issues 1, 3 and 5 of *YS* for sale or swop with programs such as *Dungeon Builder.* Write to Kurt Frary, 85 Silver Street, Norwich, Norfolk NR3 4T9.

■ Someone kind in the UK who could buy the Spectrum + upgrade kit for me. Will pay up to £30. Nuno Oliveira, Est. Alto Dos Barrieiros, 10 DT, Sta. Clara, 3000 Coimbra, Portugal.

■ Any Spectrum light pen wanted, with required software if applicable. Will swop for any two of *Knightlore, Shadowfire, Valhalla, Scrabble,* Mick Hewitson, 73 Arthur Street, Barrow-in-Furness, Cumbria.

■ Where for art thou *Robotron*? If anyone has this game or knows where to obtain it, please contact John Flynn. Tel. 021-475 4535 and ask for John.

## PENPALS

■ Female pen pal wanted, 14+ to swop games. Write to Stuart Finch, 1 Beechwood Park, South Woodford, London E18 2E.

■ 18 years old, hopeful fantasy novelist wants female pen pal. Age does not matter. Must like Speccies. I have over 100 games, also a large record collection. Please write to Micky Finn, 98 Ripon Street, Blackburn, Lancashire BB1 1TW.

■ I'm almost 17 and would like a pen pal of 17+ to swop ideas, tips, etc., and general correspondence. I'm *no* good at programming, I've never completed *The Hobbit,* but I'm quite good at *Atic Atac.* Helen Spriggs, 3 Barnet Gate Lane, Arkley, Herts EN5 2AA.

■ I'm 14 and I would like a British pen pal of any age to swop software, hints and POKEs. I like playing most Speccy games. Steven Hudson, 8 Kippielaw Park, Mayfield, Dalkeith Lothian Region, Scotland EH22 5AH.

■ 14-year-old male Speccy owner wants pen pal, same age, male or female, Speccy owner. Write to Nicholas Frewin, 29 Gravely Avenue, Borehamwood, Herts.

■ 18-year-old seeks pen pal (preferably with Microdrive) to swop games and playing tips. David Crichton, 14B Corsewall St., Coatbridge, Lanarkshire, ML5 1PY.

■ Mad pen pal wanted for hopeless 14 year-old adventurer. Must hate flying games. Humpty Dumpty was pushed! Squawk! Robbie Pickering, 86 Grange Tower, Muirhouse, Motherwell ML2 2LZ.

■ Are you into designer clothes, all types of music and computers. I'm 17 and want a male/female pen pal with similar interests. Paul Nunn, 15 Cotswold Drive, Waltham, South Humberside DN37 0EA.

■ Pen pals (20+) wanted from any country. If you know something about motor-bike thieves in Newcastle then you *must* write! Also, loads of software to swop. All letters answered. Per H. Kristensen, Norresobakken 111,8800 Viborg, Denmark.

■ Pen pal wanted, any sex, to swop hints, tips, programs, etc. Must be into hacking and arcade adventures, aged between 13-15. Send photo. Andrew Daly, 5 Shearburn Terrace, Snaith, Nr Goole, Nth Humberside DN14 9JS.

■ 16-year-old wants American or Australian pen pal to swop software, hints and tips. Write to David Neeson, 25 Ladywell Drive, Tullibody, Clackmannanshire, Scotland FK10 2QP.

■ Pen pal wanted to exchange games, hints and tips. Write to Gareth Morgan, 68 Hereford Road, Monmouth, Gwent, NP5 3HJ.

■ Wanted! Male or female pen pal to swop games. Aged 15 to 18 if possible. I have lots of games to swop. Write to Mark, 46 Church Lands, Sunrising, East Looe, Cornwall.

■ Pen Pal, male or female, 14+ to swop POKEs and games tips and preferably have some interest in programming as well. Write to Jeremy Parsley, 12 Ty-Wern Road, Rhiwbina, Cardiff, South Wales CF4 6AA.

■ Anyone male or female, 18-22 interested in writing own programs, Basic, Pascal and machine code, chart music and has 48K, write to Joe Clark, 9 Glenraith Square, Craigend, Glasgow G33 5PD.

■ Beautiful female computer owner, 17+, sort. Into arcade or adventures. Hints and info given on games. Also likes Si-Fi films, music, *Max Headroom* or anything weird. Please send photo. Noel Wallace, 6 Acris Street, Wandsworth, London SW18 2QP.

■ Any female novice please reply to the letter. Must have a Speccy or else you can't swop games and hints with me and my friend Neil. I'm 16. Anthony Nobbs, 10 Cains Lane, Bedfont, Middx TW14 9RH.

■ I'm a 14 year-old Speccy lover who wants a pen pal of around the same age. My hobbies include adventures, computer programming in Basic, Forth and m/c, not playing arcade games, Esperanto, the occult, reading and youth hostelling. Ashley Monk, 119 Brighton Road, Southgate West, Crawley, Sussex RH10 6TE.

■ I'm 15 and would like a female pen pal of about the same age. J.J. Waldron, 62 Greenloons Drive, Formby, Merseyside L37 2LR.

## MESSAGES

■ Hello Blacksmith! Hope your Speccy gets well soon! Give the sun some pink pyjamas and watch it grow like a bunch of bananas? Good luck in the future, yours Gad!

■ The pen pal from Denmark. Your Tas-letter would not load, and I don't know your address. Please write back. Waiting, Mall Smith.

■ *YS* issues 2, 4 and 7 for sale. £4 each. Write to JRM Rooth, Culver Combe, Chudleigh,S. Devon TQ13 0EL.

## CLUBS AND EVENTS

■ Wallysoft seeks new members to buy or swop programs (originals only!). Free competition open to members. For details send two stamps to Wallysoft, 29 Bower Road, Swinton, S. Yorks, S64 8NU.

■ Londoners! Finsbury Park's *Computers in the Park* club is still looking for you. Tel. 01-631 1433 during office hours and ask for Pete or Tony — they're waiting for your call . . .

■ ZX-Aid Sinclair Computer Club. We meet twice monthly at Walsall. Tel. 021-502 4420 and ask for T. A. Walker after 6 pm.

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# HACK FREE ZONE

***Hi there, Hexophiles. Hex Loader's here again, with some more winnin' hints and triffic tips.***

Haw've you been, old sport? I feel terrible! I've got a cold in my CPU, and my joystick port is running like a tap . . .aaaa-AAAAA-CHOOOoooooo!!!

Still, you don't want to hear my problems, (sob!), I'm here to listen to your tips and hints on all the wackiest new arcade games. Just a second, I'll dip a tendril into the jolly old mailbag . . . Aha! Here we go then . . . here's the next instalment to **P. Bradford** of Nottingham's help list for *Dun Darach*, begun last month . . . Go to the Magick Shop on Cinder Bank, and buy a spell for 1000Ir. Press 'offer' to activate the Tele-stone, and it'll show you where Skar is. When she's passing you, quickly change the asterisk to the spell and offer it to Skar. She'll say "I am seen", and now you'll be able to see her all the time. Now offer her the pearl, and she'll give you a scroll saying 2**25. In old fashioned ZX Basic this is 2 to the power of 25. The answer to this is 33554432. Make a note of this, as it is an important clue, Go to 3 North Wall, and buy a statue. That'll set you back 600Ir. Take the statue to Teth on Claw lane — just follow the rat! When you give the statue to Teth, he'll offer you the D-key in return. With it you can pass through the door in the north of the Castle, hence the club "Teth is jailer". Drop objects on the three altars, under the spinning letters to spell D.P.E. The door to the right of the screen will now be unlocked. Go through this door, retaining the 2**25 scroll plus one other object! And then . . . Ha-hah! That's where I've got you, because you're gonna have to wait until next time to see the final solution. Stop griping! You don't expect me to give away the whole thing in one go, do you? No, you don't! Wait until next ish, or I'll send you to bed with no tea!

While I'm on the subject of *Dun Darach*, I have notes here from **Barbara Winterton** of Wetherby, **Paul McLean** of Tyne and Wear and **Major W. Beardwell (Rtd)** of Taunton to name but a few of the hordes of people who wrote to say that Paul Allen was wrong. He said that in return for the brooch you received a script which reads "Rats are vain" not "Rats are *not* vain" as quoted. Shoot! Look folks, don't blame me, I wasn't even built when that issue was printed! As for not giving away too many clues, why d'ya think I only release a piece of the solution a month? Well yes, I am a sadist, but the other reason is that I want you to enjoy the games! Simple really!

For those of you that never made it out of nappies (I for one still drop little batteries around the house) here is how to make it out of *Herbert's Dummy Run.* **Paul** and **Darren Robinson** of Dundee sent me this little list of hints:

1. Get the light bulb, and then the torch to allow you to see in the darkroom to the right of the swimming pool.
2. Get the cork, then the popgun to allow you past the soldiers.
3. Get box key and honey pot, return to first screen and stand on the Jack-in-a-Box; you're then able to get the teddy bear.
4. Use the Teddy to help unlock the door in the dalek room.
5. In the dalek room you will see a short rope. Jump at this with the rope and it will lengthen.
6. The duck in the swimming pool is now accessible, although difficult.
7. Try using the duck to get stones from the castle, they might help with the catapult.

Thanks, boys!

**Mark Watts** of Burton-on-Trent writes "I have a few tips for *Wriggler* players . . ." Do Tell! ". . .Get the bags of gold and immediately drop them. This increases your score dramatically. Also, get to the scrublands, get to the screen with the clockwork spider — go up, up, right, down, left, left, and then follow the ant." Huh? Surely you mean follow the bear . . . oh no, sorry. That's a lager commercial. "Next go down and then right and you'll be in the screen with *two* clockwork spiders" Yuk! "Here go through the bottom right, go down and then left and you'll be in the scrublands. There are a lot of extra lives in the scrublands." Goforit! "Hang on, I'm not finished . . . One last tip. Go down the first two passages in the Underground . . ." Cryptic, huh? Thanks, Mark. Triffic!

Now **Stephen Trask** of Rochdale. "On the 18th of August I finished *Highway Encounter.* Am I the first to do so?" Dunno. Is he? Tips include sending one Vorton forward to clear Zones 29-20, then sending him back to release the rest, and continuing like that. Don't spend too much time on the pathways, just clear them enough to get through — time is precious. On zone 5, block the alien and push to trap him. Go to the corner of your block, turn toward the alien and push — it'll move just enough for you to get the Lasertron through! Nice one, Steve.

Right. That's enough from the mailbag. You know, I've been playing a lot of games lately. No, really! My favourites of the moment are *Macadam Bumper* by PSS, that old rave from the grave *PSSST*! from Ultimate before they got sassy, and *The Covenant* also from PSS. Give 'em a try . . . they're wangy! Hey, drop me a line and tell me what your favourite game is, and why you play it, rather than any other.

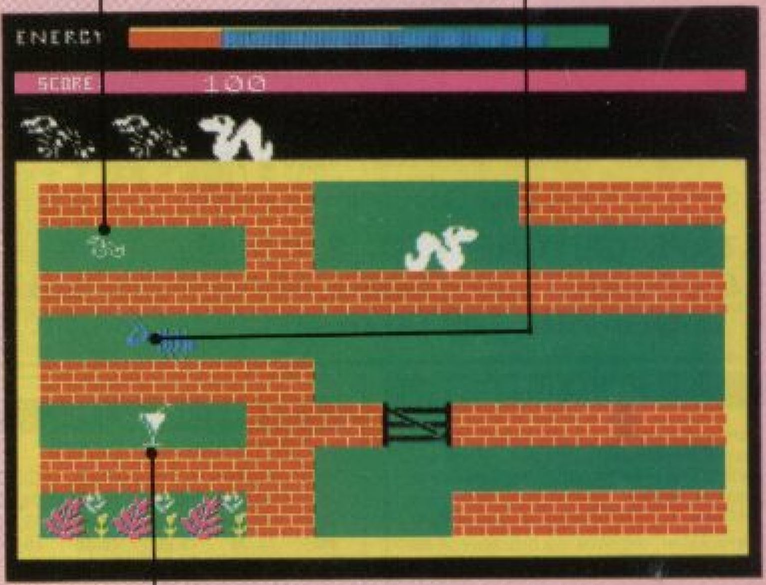
Right, that really is it. I've run out of space. Besides, my printer's getting hot! OK, see ya next month, and keep those letters flying in. Oh yeah, something else . . . hey, take your hand off my plug! You're not going to do that again . . . (Click, buzzzzzzzz)

*If you really must, send your missives to his mechanical mouthship, Hex Loader, Hack Free Zone,* Your Spectrum, *14 Rathbone Place, London W1P 1DE. Ed.)*

**Mark Watts from Burton-on-Trent has a few suggestions on how to play Wriggler — Hex has some other ideas...**

Hey, it's a Hex-tra life (geddit?). Looking at the state of my existence surplus (that's hi-tech for lives left!), it may be a wise move to collect it!

Once you've become Hex-pert at this game (oh I know they're corny, but megastars can get away with murder!), you'll learn to avoid these energy-draining ants.




It's frothy man! A double quick shake for boosting the energy reserve works wonders. Yeah, I know it's out of immediate reach, but us megastars take things slowly, right?

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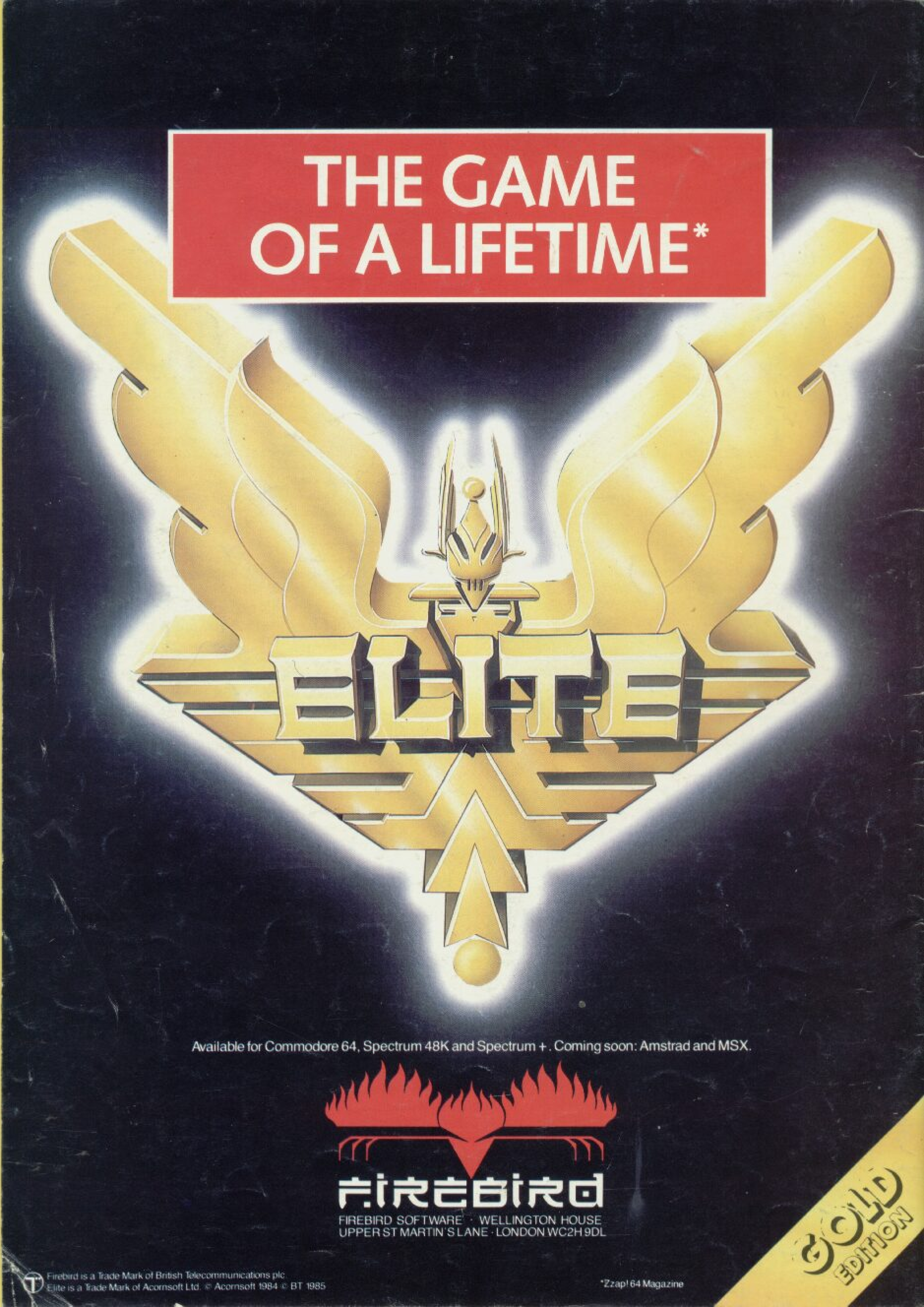
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